JUNIOR CO-OPERATIVE VARIETY TESTS

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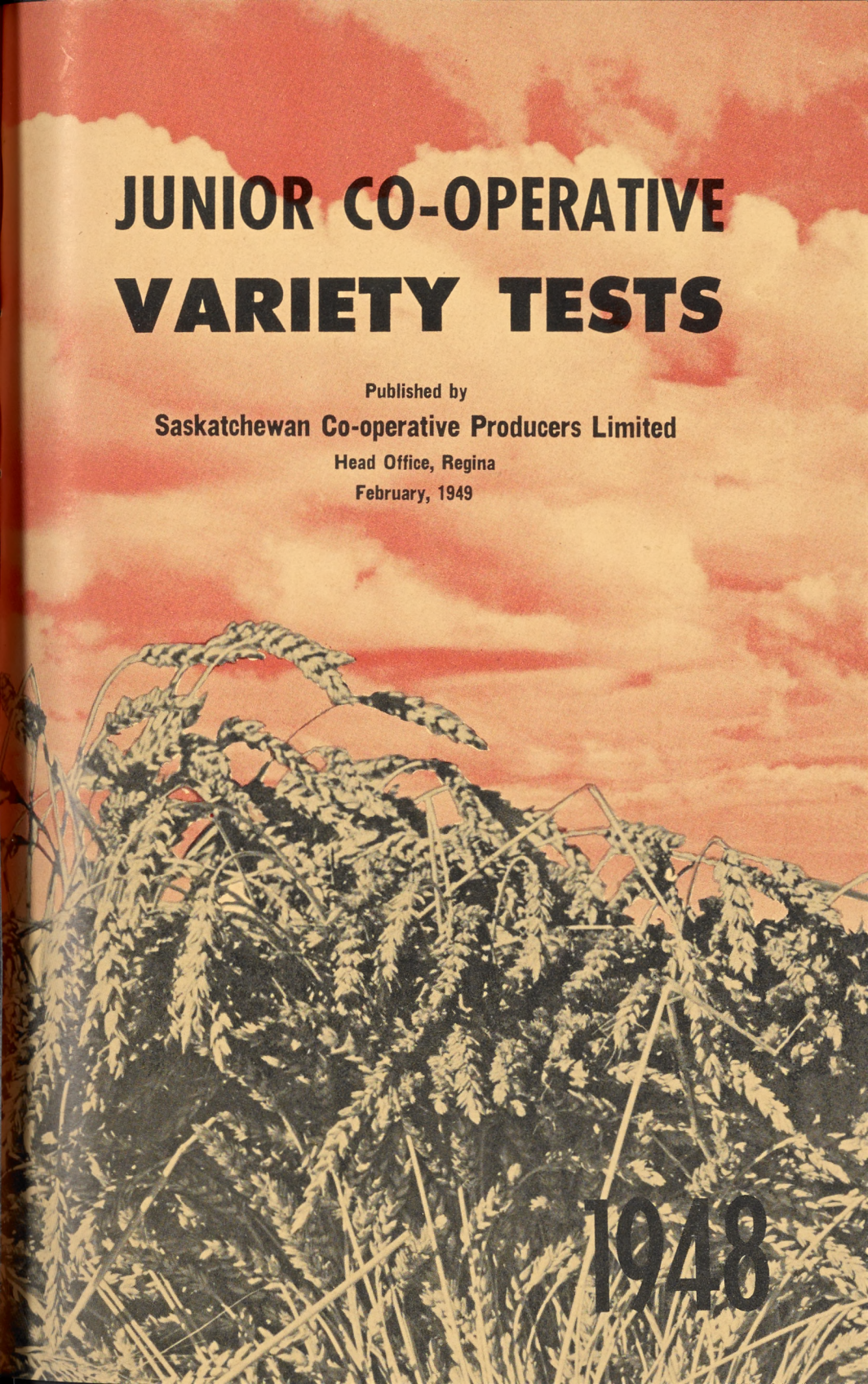

1948

Cover Subject

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JUNIOR CO-OPERATIVE VARIETY TESTS

WHEAT, OATS, BARLEY and CROP COMPARISON

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FOREWORD

By the President of Saskatchewan Co-operative Producers Limited

SUCCESS or failure in the achievement of a lasting world peace will depend largely on the ability of free nations to produce and distribute food in sufficient quantities to meet the requirements of people in all countries. The Saskatchewan Wheat Pool believes that through international co-operation and orderly marketing, consumers throughout the world can be fed more adequately than ever before. This will require agricultural production in Canada to be maintained at a very high level, both in quantity and quality.

During the years, wheat from our fertile plains has built an outstanding reputation for Western Canada in the markets of the world. It may be expected in the years to come that quality production will be in greater demand than ever before and it is our duty as producers, working in close co-operation with science, to ensure that the excellent standard of our primary product is maintained, and possibly improved.

The extensive program of varietal improvement carried out in the past has been a major contributing factor in the building of a sound agriculture in Western Canada. The Saskatchewan Wheat Pool has taken an active part in this program since 1935 and we believe that our annual Variety Tests have contributed information of value to producers. We hope that our future efforts will be of some assistance in combatting the remaining agricultural hazards which continue to reduce our crop yields by millions of bushels annually.

Our mainstay in the variety testing program is the group of young farm men and women who supervise tests in every corner of the Province. Major credit for the success of the work is due to them for their untiring efforts and accurate reports. Without the valuable assistance given by these young people we would be unable to continue our program. The agricultural industry of Saskatchewan is deeply indebted to the Junior Co-operators of 1948 and it is my privilege, on behalf of the Saskatchewan Wheat Pool, to thank each and every one of them for the fine contribution they have made.

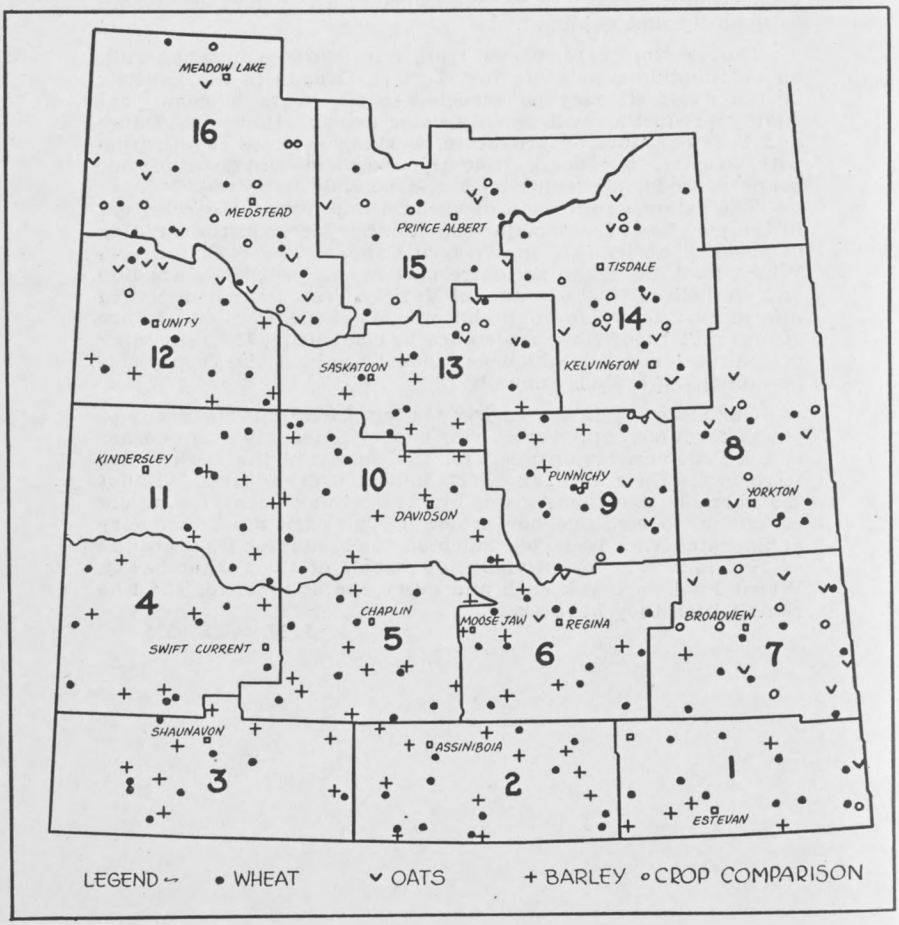
J. H. WESSON.

INTRODUCTION

THE 1948 variety testing program consisted of four parts: Wheat tests, Oat tests, Barley tests and Crop Comparison tests.

The wheat project included 157 individual tests and these were distributed in all districts of the Province. In the central, western and southern Cereal Variety Zones the four varieties tested were Thatcher (the standard of comparison), Apex 2177, Rescue and Stewart. The two latter varieties were selected for testing in this area due to their resistance to the attacks of sawflies which have caused increasingly severe losses during recent years. In the eastern and northern zones the varieties used were Thatcher, Apex 2177, Redman and Saunders. Redman and Saunders were bred for use under climatic conditions of the types which exist in these regions. Redman has already proven its suitability for use in several zones and subsequent tests will indicate whether or not it should be recommended over a still wider area. Saunders is a high quality variety bred mainly for use in areas where the frost-free season is short. As yet it has not proven entirely suitable for use under Saskatchewan conditions. The section of the booklet dealing particularly with wheat tests begins on page 10.

MAP SHOWING LOCATION OF TESTS ACCORDING TO WHEAT POOL DISTRICTS



The oat project included 43 individual tests distributed throughout the eastern and northern Cereal Variety Zones (3A, 3B, 3C, 3E, 3F, 4A and 4B). The varieties used were Exeter, Fortune, Larain and Valor. The section of the booklet dealing with oat tests begins on page 37.

The barley project included 74 individual tests and these were distributed throughout the central, southern and western Cereal Variety Zones (1A, 1B, 1C, 2A, 2B, 2C, 2D, 2E and 2F) where the barley crop has increased in importance during recent years. The varieties used were Titan, Gem, Vantage and Velvon, and the section of the booklet dealing with this project begins on page 45.

The Crop Comparison project was conducted throughout a limited area in an effort to determine the relationship, on a cash value-per-acre basis, between four of the major crops grown in Saskatchewan. Similar tests were made in 1941 and 1942 on a Province-wide basis using two varieties of each of wheat, oats, and barley with results very similar to those on these crops in the 1948 tests. For the 1948 project, one leading variety each of wheat, oats, barley and flax were selected and these were placed in 38 tests conducted throughout the northern and eastern Cereal Variety Zones. The varieties used in the project were Thatcher wheat, Fortune oats, Montcalm barley and Dakota flax. The results of the comparison are summarized in the section beginning on page 55.

DESCRIPTION OF TESTS

A diagram of the wheat test appears on page 6. Twenty rows were sown, allowing for five replicates of each variety. The rows were 16½ feet long and were placed 18 inches apart. For protection purposes, an extra buffer row was placed at each end of the test and the entire project was surrounded by a winter wheat border.

The barley and oat tests were sown in a similar manner. Each test consisted of sixteen plots of two rows each. The rows, each 16½ feet in length, were placed 1 foot apart. The sixteen plots allowed for each of the four varieties to be replicated four times throughout the test. One of the rows in each plot was used for testing purposes while the other served as a protection to the test row. For additional protection the entire test was surrounded by a winter wheat border.

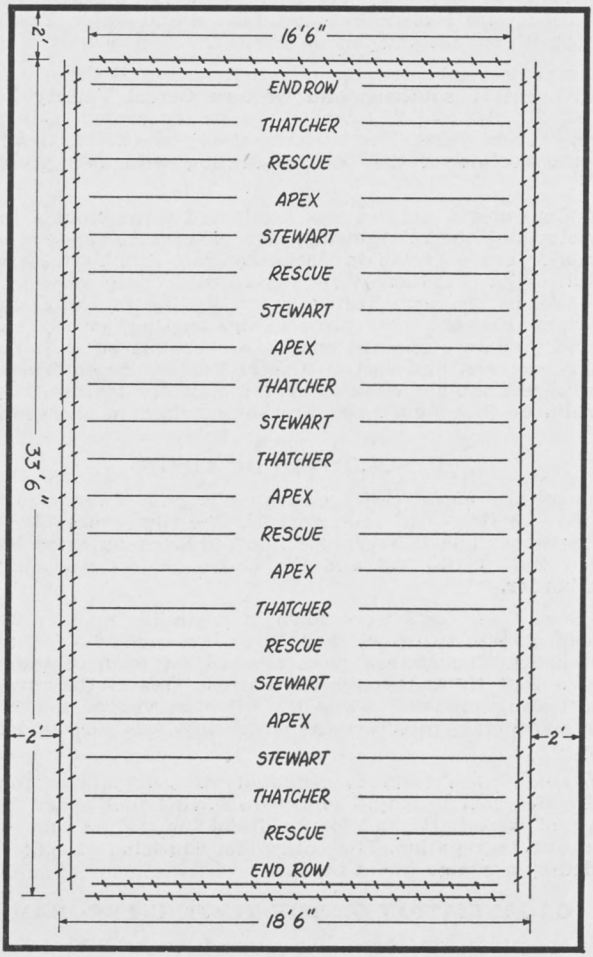
The crop comparison tests consisted of sixteen plots of four rows each. The rows were 16½ feet in length and were sown 1 foot apart. The two centre rows of each plot were harvested for yield and the two outside rows were used for protection and segregation. The entire test consisted of sixty-four rows and was surrounded by a winter wheat border.

ORGANIZATION OF THE TESTING PROGRAM

Junior Co-operators were carefully selected by the Wheat Pool delegate in each sub-district to supervise the individual tests. The success of a project of this nature is largely dependent upon the care and accuracy with which the individual tests are carried out. It was necessary, therefore, to choose for this work young men and women who were interested and reliable. It was necessary, also, to have tests carried out on various types of soil and under differing climatic conditions. This was achieved through the efforts of the Wheat Pool delegates who made possible the excellent distribution of tests illustrated in the map on page 4.

The equipment required for each test was supplied from Head Office of the Wheat Pool in Regina. Individual parcels of seed were carefully prepared and were shipped to the supervisors together with full instructions explaining in detail the method of seeding the test. During the growing season close contact was maintained between each of the 312 Junior Co-operators and the Junior Co-operative Department of the Wheat Pool organization. The co-operators were requested to complete and forward regular progress reports concerning the comparative development of each variety. The information from these reports was summarized and was used as the basis for the results which appear in the booklet. When the grain was ripe, each co-operator carried out harvesting operations according to special instructions which had been supplied to him. Care was taken to ensure that the returns for each row were parcelled separately and were carefully marked in order to prevent errors in identification. The

PLAN OF WHEAT TEST



The crossed lines represent border rows of winter wheat. A two-foot pathway was left between the winter wheat border and the surrounding field crop. The coarse grains and crop comparison tests were laid out in a similar manner except that 33 rows were sown in the coarse grains projects and 64 rows in the crop comparison tests.

sheaves were dried and turned over to the nearest Pool elevator agent for shipment to Head Office. On arrival at Regina, the sheaves were threshed separately and the yields were recorded. A sample of each variety was cleaned, weighed in pounds per measured bushel and graded.

Finally the yield, bushel weight and grade of each variety were entered on a summary sheet together with the detailed information which the co-operator had supplied in his reports during the growing season.

As has been the case during the past fourteen years, the project was planned and supervised under the guidance of Dr. J. B. Harrington, Professor of Field Husbandry, University of Saskatchewan, Saskatoon. The threshing, summarizing and statistical analysis in connection with the project were carried out at Head Office of the Saskatchewan Wheat Pool under the direction and supervision of I. K. Mumford.

FACTS TO BE REMEMBERED IN READING AND STUDYING RESULTS

The results of tests carried out during a single year should not be considered as conclusive evidence to be used in the selection of a variety. Weather conditions vary considerably from year to year and a variety which gives a favorable performance in any one season may not do well under conditions which exist the following year. In choosing a variety, therefore, the farmer is advised to study the results of several years' tests and in this regard the pamphlet entitled, "Varieties of Grain Crops for Saskatchewan, 1949," is recommended. This pamphlet is compiled by the Saskatchewan Cereal Variety Committee on the basis of information derived from tests conducted under the supervision of the University of Saskatchewan, the Dominion Experimental Farms, and the Saskatchewan Wheat Pool. Copies have been supplied to each Pool elevator agent for the use of farmers in his district. Additional copies may be obtained free of charge from the University of Saskatchewan, Saskatoon; the Provincial Department of Agriculture, Regina; or Saskatchewan Co-operative Producers Limited, Regina.

Necessary Difference

The statistical term "Necessary Difference" is used in different parts of this report. The "Necessary Difference" is calculated by applying an approved statistical formula to the yield results of each individual test. The result of the calculation is shown in bushels per acre and it represents the amount by which a variety must outyield another variety in the test in order to be considered significantly superior in yield.

Straw Strength

Straw strength was reported on the basis 10-0. If the plants in a plot were straight and erect the strength of straw was recorded as 10. If the straw showed signs of weakness a lower figure was used depending upon the degree of weakness observed.

Neck Strength

This term appears only in the section of the report dealing with barley tests. Neck strength was recorded on the basis of 1, 2, 3, where 1 indicated a strong neck holding the head upright, 2 indicated a neck of medium strength, while 3 was used when the neck appeared weak.

Individual Results

The results of individual tests appear in the following tables: Wheat No. 21; Oats, No. 30; Barley, No. 40; Crop Comparison, No. 43. These results are

Two views of the Crop Comparison Test supervised by Roy Hendricks, Aylsham.

arranged according to Wheat Pool districts (illustrated on page 4) so that a reader who wishes to study the results of tests in a particular area may readily locate the tests in which he is interested. It should be emphasized that the results of a single test give an accurate comparison of the varieties only under the conditions which exist on the farm where the test is located. An examination of the results in these tables will reveal the fact that the varieties do not show similar relationships in all areas of the Province. Results may differ widely, even in tests grown relatively close together. This variation may be due to several causes, most important of which are differences in soil type, moisture conditions and date of seeding.

Grading Remarks

In determining commercial grades, bushel weight is a very important factor. However, there are many other factors which may lower the grade of a sample.

In the individual results, the column headed "Grading Remarks" contains abbreviations which are used to denote any adverse characteristics other than bushel weight, which appear in the sample of grain.

The following abbreviations have been used to indicate the various defects:

Bl.—Bleached
S. Bl.—Some Bleached
B. Bl.—Badly Bleached
B.P.—Black Point
D.—Dark
E.—Ergoty
S.E.—Some Ergoty
F.—Frosted
S.F.—Slightly Frosted
B.F.—Badly Frosted
G.—Green
S.G.—Slightly Green
V.G.—Very Green
H.—Heated
S.H.—Slightly Heated
P.—Piebald
S.P.—Some Piebald
I.—Immature
S.I.—Slightly Immature
M.—Mildewed
Pk.—Pink
S. Pk.—Slightly Pink
Sh.—Shrunken
St.—Stained
Stch.—Starchy
S. Stch.—Slightly Starchy
V. Stch.—Very Starchy
W.—Weathered
W.S.—Weather Stained

ANALYSIS OF DATA

The individual tests were grouped for analysis on the basis of cereal variety zones. These zones, the boundaries of which were laid out by the Saskatchewan Cereal Variety Committee, are described below and illustrated on pages 32 and 33. Each zone represents an area within which the soil is of the same general type and where climatic conditions are normally somewhat similar. It should be stressed, however, that local conditions within a zone sometimes vary considerably from the average of the zone.

Cereal Variety Zones—Prevailing Soil Type and Climatic Conditions

1A Brown soils; subject to frequent droughts.

1B Brown soils; subject to more frequent droughts than 1A.

1C Brown soils, chiefly burn-out types; subject to more frequent droughts than 1A.

2A Dark brown soils; subject to occasional droughts; better moisture conditions than 1A.

2B Dark brown soils; slightly cooler than 2A.

2C Dark brown soils, bench land; cooler, shorter frost-free season and better moisture conditions than 1A.

2D Dark brown soils; higher elevation and distinctly shorter frost-free season than 2B.

2E Dark brown heavy clay soils; more drought resistance than 2A and 2B.

2F Brown and dark brown heavy clay soils; more drought resistance than 1A and adjoining 2B.

3A Black soils; better moisture conditions than 2A.

3B Deep black and degraded black soils; shorter frost-free period and better moisture conditions than 3A.

3C Black soils; better moisture conditions than 2B, and cooler than 3A and 3G.

3D Deep black soils; better moisture conditions than 3E.

3E Black soils; shorter frost-free season and better moisture conditions than 2D.

3F Degraded black and some grey soils; shorter frost-free period than 3D.

3G Black soils, medium to light textured, more droughty than 3E.

3H Degraded black soils; distinctly short frost-free season.

4A Grey and strongly degraded black soils; short frost-free season.

4B. Grey soils; distinctly short frost-free season; better moisture conditions than 3E.

RAINFALL

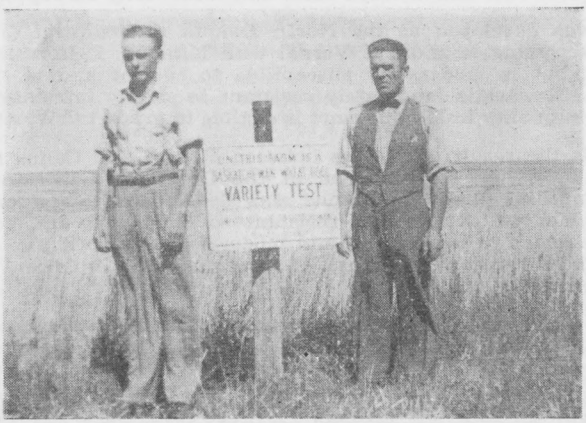
As the amount of rainfall during the growing season has a far greater influence upon the yields than the amount of annual precipitation, the rainfall shown in the following table covers only the months representing the growing period of wheat in Saskatchewan.

TABLE NO. 1.—THIS TABLE SHOWS THE NUMBER OF POINTS REPORTING AND THE AVERAGE MONTHLY PRECIPITATION DURING THE PERIOD APRIL-AUGUST, SUMMARIZED BY CEREAL VARIETY ZONES

	AVERAGE TOTAL PRECIPITATION									
Cereal Variety Zone	*	April	*	May	*	June	*	July	*	August
1A	13	1.51	14	.90	15	1.46	14	2.82	13	1.05
1B	2	1.74	2	.84	2	1.03	2	2.18	2	.35
1C	4	1.00	3	1.23	4	2.83	3	1.80	3	.70
2A	4	1.45	3	.69	4	1.50	4	3.27	4	.62
2B	14	1.21	11	.46	13	1.42	11	2.06	13	1.25
2D	3	1.60	4	.45	4	1.21	4	2.82	4	1.04
2E	4	1.73	4	.24	7	1.71	6	2.84	6	1.20
3A	3	1.48	3	1.82	4	1.56	4	3.31	3	2.07
3B	6	2.11	5	1.26	5	1.85	4	3.71	6	2.47
3C	7	1.60	8	.88	8	1.80	6	1.75	7	1.76
3D	2	1.58	1	.72	2	.94	1	1.07	1	1.19
3E	1	2.13	1	.58	—	—	1	1.08	2	1.23
3F	1	2.70	1	1.70	1	.90	2	2.27	1	.90
3G	3	2.31	3	.40	3	1.43	3	1.44	3	1.02
4A	2	2.62	1	.89	2	1.10	2	1.89	2	2.53
4B	3	1.71	3	.28	4	.89	2	1.43	3	1.26

*Number of stations reporting.

Note: The precipitation records from which the above table was compiled were supplied by the Statistics Branch, Provincial Department of Agriculture.



Buddy Dyck (left), Wheat Variety Test supervisor at Dunelm, and Adam Schick (right), Pool Elevator agent.

WHEAT TESTS

The wheat project consisted of 157 individual tests. These were distributed throughout the entire grain growing area of the Province and it is felt that the results of the project represent accurately the ability of each variety on the various types of soil, and under the climatic conditions which existed during the growing season. Five of the new, promising varieties were selected for testing, using Thatcher as the standard for comparison. Not all of the varieties were tested in each area. Thatcher and Apex were used in all zones but each of the other varieties was used in the general area where it could reasonably be expected to give best results when grown commercially. Rescue and the durum variety, Stewart, were tested in the open plains area *(Cereal Variety Zones 1A to 2F inclusive). Redman and Saunders were included in tests in the black and deep black soils of the park belt region (Cereal Variety Zones 3A to 4B inclusive).

DESCRIPTION OF VARIETIES

Thatcher was produced from a cross made in 1921 at the Minnesota Agricultural Experiment Station, St. Paul, between (Marquis X Iumillo) X (Marquis X Kanred). From one of the original crosses (Marquis X Iumillo), a bread wheat type was obtained with a considerable degree of resistance to stem rust under field conditions. From the Marquis X Kanred cross, a spring wheat was selected of good milling and baking quality that was immune to several forms of black stem rust and had high yielding ability. Thatcher originated from a cross between these two. Thatcher is resistant to most forms of black stem rust and to loose smut, but is susceptible to leaf rust and covered smut.

Apex was developed at the University of Saskatchewan from the composite cross (H-44-24 X Double Cross) X Marquis. Double Cross is a sister of Thatcher. Apex is highly resistant to stem rust, moderately resistant to covered smut and loose smut, but susceptible to leaf rust. A new strain, Sask. 2177, which resulted from back crossing Apex on to Marquis, was used in these tests. Compared to the original variety, Apex 2177 is higher in yield, stronger strawed, higher in bushel weight and slightly later.

Rescue orginated from a cross made in 1938 at the Cereal Division, Central Experimental Farm, Ottawa, between Apex and S-615. The resultant population was transferred to the Dominion Experimental Station at Swift Current, Saskatchewan, for exploitation. Here plant breeders in co-operation with the Division of Entomology, Science Service, produced Rescue. It is the first bread wheat variety to be introduced which is capable of resisting the attacks of the wheat stem sawfly to a high degree. Rescue is resistant to stem rust but susceptible to leaf rust and covered smut and moderately susceptible to rootrot.

Stewart was developed at the North Dakota Agricultural College as the result of backcrossing Mindum X Vernal with Mindum. It is resistant to stem and leaf rust but is moderately susceptible to rootrot and is susceptible to covered smut. Stewart is moderately resistant to sawfly infestation. It is considered equal in quality to Mindum and is eligible to grade 1 C.W. Amber Durum.

Redman is the result of a cross between Regent and Canus made in 1934 by the Cereal Division staff located at the Dominion Laboratory of Cereal Breeding, Winnipeg, Manitoba. Canus was developed from a cross between Marquis and Kanred. Redman is resistant to stem rust and covered smut, moderately resistant to loose smut, and moderately susceptible to rootrot. It is resistant to most races of leaf rust. It ranks with Marquis and Thatcher in milling and baking quality.

Saunders is an early maturing variety which orginated from a cross made at the Central Experimental Farm, Ottawa, in 1938, between an early ripening hybrid (Hope X Reward) and Thatcher. Saunders is resistant to stem rust and loose smut. It is moderately resistant to rootrot but susceptible to leaf rust and moderately susceptible to covered smut. Saunders has been licensed and is eligible for the highest grades.

*See Cereal Variety Zone Map, page 32.

TABLE NO. 2.—AVERAGE YIELDS IN BUSHELS PER ACRE SUMMARIZED BY CEREAL VARIETY ZONES AND GROUPED ZONES

Cereal Variety Zone	No. of Satisfactory Tests	Thatcher	Apex	Rescue	Stewart	Redman	Saunders	Necessary Difference (B) in Bushels
1A	19	18.6	17.8	17.2	19.7	——	——	1.7
2A	9	20.5	19.0	18.9	24.7	——	——	2.6
2B	11	15.5	15.6	13.7	14.5	——	——	1.4
2C	3	20.7	22.0	19.1	16.2	——	——	4.7
2D	5	12.1	11.0	10.9	11.8	——	——	(A)
2E & 2F	3	18.3	15.1	17.2	22.0	——	——	4.8
3A	8	25.0	23.4	——	——	21.3	17.8	1.8
3B	15	32.6	30.6	——	——	27.6	25.0	1.5
3C & 3D	12	26.6	24.7	——	——	21.9	21.0	1.5
3E	5	13.5	14.2	——	——	11.4	11.1	2.1
4A	3	34.7	38.0	——	——	27.5	22.8	6.2
3G & 4B	6	17.8	17.7	——	——	15.5	14.6	1.8

A—No significant grain yield difference between varieties.

B—Necessary difference is the amount by which a variety must outyield another variety in the zone in order to be considered significantly superior in yield.

Note—There were no satisfactory tests in Zones 1B, 1C and 3F.

Table No. 2. Zones 1A to 2F.—A general average of all tests shows that **Stewart** outyielded the other varieties. On the basis of zones, Stewart was high yielder in 1A, 2A, and the grouped Zones 2E and 2F. In 2D Stewart ranked second and in 2B it placed third. It was outyielded by the other varieties in Zone 2C. Stewart gave its best performance in Zone 2A where its yield exceeded that of all other varieties by a significant margin.

Thatcher placed second in yield on an average basis with **Apex** third and **Rescue** fourth. There were no major differences between the yields of these varieties, however, except in Zone 2B where both Thatcher and Apex significantly outyielded Rescue.

Zones 3A to 4B—**Thatcher** generally outyielded the other varieties in these zones, the exceptions being 3E and 4A where it ranked second to Apex. In neither of these zones was the yield superiority of Apex significant. **Apex** ranked first in yield in two zones and placed second in the remaining four areas. It significantly outyielded Redman and Saunders in every zone. **Redman** placed third in yield in every zone and **Saunders** gave an inferior performance, yielding fourth and last consistently.

TABLE NO. 3.—AVERAGE NUMBER OF DAYS FROM SOWING TO RIPENING SUMMARIZED BY CEREAL VARIETY ZONES

Cereal Variety Zone	Thatcher	Apex	Rescue	Stewart	Redman	Saunders
1A	98.5	99.3	101.2	103.7	——	——
2A	97.8	98.5	99.4	102.1	——	——
2B	97.6	99.1	100.3	104.1	——	——
2C	100.0	99.0	101.5	104.0	——	——
2D	104.8	104.0	104.3	106.0	——	——
2E & 2F	86.0	87.0	89.0	89.5	——	——
3A	93.9	94.4	——	——	94.0	94.6
3B	96.8	98.4	——	——	96.3	96.8
3C & 3D	97.1	98.9	——	——	96.9	96.7
3E	89.0	89.8	——	——	89.0	88.8
4A	93.7	93.3	——	——	94.7	94.0
3G & 4B	81.0	82.0	——	——	82.0	82.0

Table No. 3. Zones 1A to 2F—**Thatcher** generally ripened earlier than the other varieties, followed by **Apex, Rescue** and **Stewart** in that order. Zones 3A to 4B—Only slight differences appeared between the varieties, the most marked variation occurring in Zones 3C and 3D where Saunders ripened 2.2 days earlier than Apex.

TABLE NO. 4.—AVERAGE HEIGHT OF PLANTS IN INCHES SUMMARIZED BY CEREAL VARIETY ZONES

Cereal Variety Zone	Thatcher	Apex	Rescue	Stewart	Redman	Saunders
1A	23.2	23.7	26.2	31.0	——	——
2A	27.4	27.3	29.1	34.4	——	——
2B	23.2	23.3	23.3	29.8	——	——
2C	29.5	31.5	32.5	37.0	——	——
2D	22.5	22.0	23.3	26.3	——	——
2E & 2F	20.3	20.0	21.7	27.7	——	——
3A	28.4	29.0	——	——	28.9	27.6
3B	31.7	32.3	——	——	31.5	29.8
3C & 3D	30.2	30.4	——	——	29.6	28.9
3E	19.5	18.5	——	——	19.0	18.8
4A	31.3	32.7	——	——	31.0	29.3
3G & 4B	23.0	23.0	——	——	23.0	22.3

Note.—There were no satisfactory tests in Zones 1B, 1C, and 3F.

Table No. 4. Zones 1A to 2F—**Stewart** was taller than the bread wheat varieties in every zone. **Rescue** placed second in average height. Thatcher and Apex were approximately equal on an average basis, and were shorter than Rescue in most cases. Zones 3A to 4B—Except for one zone in this group, **Apex** equalled or exceeded the other varieties in height. **Thatcher** generally ranked second and **Redman** placed third. In all but one zone **Saunders** proved shorter than all other varieties.

TABLE NO. 5.—AVERAGE STRAW STRENGTH OF PLANTS ON THE BASIS 10 (STRONG) 0 (WEAK) SUMMARIZED BY CEREAL VARIETY ZONES

Cereal Variety Zone	Thatcher	Apex	Rescue	Stewart	Redman	Saunders
1A	9.3	8.9	9.7	9.0	——	——
2A	8.9	8.8	9.1	8.1	——	——
2B	9.0	8.9	9.2	9.1	——	——
2C	9.2	9.7	8.8	8.4	——	——
2D	8.6	8.5	9.7	9.6	——	——
2E & 2F	7.3	8.3	9.4	9.3	——	——
3A	9.6	9.3	——	——	9.1	9.0
3B	9.1	8.6	——	——	9.0	9.0
3C & 3D	9.2	9.1	——	——	9.0	8.7
3E	8.9	8.9	——	——	9.1	8.7
4A	9.5	9.6	——	——	9.4	8.2
3G & 4B	9.5	9.8	——	——	9.8	9.5

Table No. 5. Zones 1A to 2F—**Rescue** produced the strongest straw in five zones, ranking third in the remaining area. The comparative straw strength of the other varieties showed considerable variation between zones but an average of all tests indicates that **Thatcher** was slightly superior to **Stewart. Apex** appeared slightly weaker than Thatcher and Stewart but the difference between these three varieties cannot be considered an important factor. Zones 3A to 4B—An average of all tests would indicate that **Thatcher** was slightly superior in straw strength but again the difference between the varieties is so slight that no definite conclusions should be drawn on the basis of these results.

TABLE NO. 6.—AVERAGE WEIGHT PER MEASURED BUSHEL SUMMARIZED BY CEREAL VARIETY ZONES

Cereal Variety Zone	Thatcher	Apex	Rescue	Stewart	Redman	Saunders
1A	62.3	62.5	61.8	64.3	——	——
2A	60.4	60.6	59.2	62.6	——	——
2B	61.1	61.7	61.4	64.3	——	——
2C	63.2	64.0	62.7	66.0	——	——
2D	62.2	62.6	61.8	63.0	——	——
2E & 2F	61.8	61.8	62.7	64.3	——	——
3A	61.5	61.5	——	——	60.8	59.0
3B	61.9	62.8	——	——	61.9	61.2
3C & 3D	61.7	62.1	——	——	60.8	60.8
3E	62.6	62.6	——	——	61.6	61.3
4A	62.3	62.7	——	——	62.3	61.7
3G & 4B	61.0	61.4	——	——	60.5	60.3

Table No. 6. Zones 1A to 2F—**Stewart** excelled in bushel weight in every zone. **Apex** generally ranked second, with **Thatcher** third and **Rescue** fourth. Zones 3A to 4B—**Apex** exceeded the other varieties in weight per measured bushel except in Zones 3A and 3E where it was equalled by Thatcher. **Thatcher** generally ranked second in this characteristic. **Redman** placed third in bushel weight and **Saunders** was outweighed by all other varieties.

TABLE NO. 7.—COMMERCIAL GRADES IN PERCENTAGE (ZONES 1A TO 2F)

Variety	1 Hd.	1°	2°	3°	4°	No. 5	No.6
Thatcher	——	55.9	35.6	8.5	——	——	——
Apex	——	62.7	30.5	6.8	——	——	——
Rescue	——	61.0	30.5	5.1	3.4	——	——
		1 C.W.	2 C.W.	3 C.W.	4 C.W.	5 C.W.	6 C.W.
Stewart		71.2	20.3	6.8	1.7	——	——

TABLE NO. 8.—COMMERCIAL GRADES IN PERCENTAGE (ZONES 3A TO 4B)

Variety	1 Hd.	1°	2°	3°	4°	No. 5	No. 6
Thatcher	——	38.9	38.9	18.4	1.9	——	1.9
Apex	——	29.6	53.7	11.1	3.7	——	1.9
Redman	——	20.4	44.4	27.8	5.5	——	1.9
Saunders	——	24.1	42.6	22.2	9.2	——	1.9

The average commercial grades have been consolidated into two tables which show a comparison of the grading ability of the varieties in the two main zone groups.

Table No. 7.—Zones 1A to 2F—All varieties graded well. **Apex** and **Rescue** were practically equal in this respect with **Thatcher** poorest in the bread wheat class. A high percentage of the **Stewart** samples graded in the 1 C.W. class but an accurate comparison of grading ability cannot be made between an amber durum and a bread wheat variety.

Table No. 8. Zones 3A to 4B—**Thatcher** showed the best commercial grades, exceeding **Apex** by a narrow margin in this characteristic. **Saunders** was third in grading ability, followed closely by **Redman.**

Patricia Hunt, of Baildon, and her Wheat Test.

SUMMARIZATION ACCORDING TO CEREAL VARIETY ZONES

In comparing the performances of the varieties in a particular district, it is advisable to study, not only the results of the individual test in that district but also the average results of all tests conducted under similar conditions of soil and climate. Accordingly the following section of the booklet has been prepared showing the average results of all tests within each Cereal Variety Zone. The Cereal Variety Zones are illustrated on page 33 and described in the "Analysis of Data" on page 8. Each zone represents an area within which the soil and climate is generally similar and throughout which, under normal growing conditions, a variety may generally be expected to give similar results. It should be kept in mind, however, that some variation is likely to occur in growing conditions at different points in a zone during every season. For that reason the average results of tests for a zone may not be representative of the entire area. In addition the performance of a variety may show considerable variation under the differing growing conditions that will exist within a zone from year to year. Therefore, the results of one year's test with a variety should not, under any circumstances, be considered a sound basis on which to judge the ability of the variety.

By turning to the Cereal Variety Zone map on page 33 the reader may determine the designation of the zone in which he is interested. Then, by locating the summary for that zone in the following pages, he may ascertain the average results of all tests carried out. In some cases, due to an insufficient number of tests in a zone, the tests from two similar zones have been grouped together for analysis.

In studying the data under the heading of "General Yield Performance During Past Nine Years," the reader will find it helpful to know the number of varieties tested in each year. This information is given below and the reader may refer to it when studying varietal performances for a zone. Five varieties were tested in each zone in 1940, three varieties in 1941, six varieties in 1942, four varieties in 1943, six varieties in 1944, none in 1945, and four varieties were tested in each of the years 1946, 1947 and 1948.

CEREAL VARIETY ZONE 1A

TABLE NO. 9.—SUMMARIZED RESULTS FOR ZONE 1A
(19 satisfactory tests)

	Thatcher	Apex	Rescue	Stewart
Yield in bushels per acre	18.6	17.8	17.2	19.7
Days from seeding to ripening	98.5	99.3	101.2	103.7
Height of plants in inches	23.2	23.7	26.2	31.0
Straw strength	9.3	8.9	9.7	9.0
Bushel weight in pounds	62.3	62.5	61.8	64.3
Commercial grades in percentage: 1 Nor. & 1 C.W.	69.5	69.5	65.1	73.8
2 Nor. & 2 C.W.	26.1	21.7	26.1	17.4
3 Nor. & 3 C.W.	4.4	8.8	4.4	4.4
4 Nor. & 4 C.W.	——	——	4.4	4.4

Necessary Difference—1.7 bushels.

Table No. 9—**Stewart** outyielded the other varieties, exceeding Apex and Rescue by differences which are significant. It excelled in bushel weight and height, graded well and proved satisfactory in straw strength. Stewart was relatively late in maturity, however. **Thatcher** ranked second in yield but was not significantly superior in this respect to Apex and Rescue. Thatcher graded slightly better than the other bread wheat varieties. It ripened early and was quite satisfactory in bushel weight and straw strength. It was shorter in straw than the other varieties. **Apex** placed third in yield and was slightly weaker in straw than the other varieties. **Rescue** was fourth in yielding ability and bushel weight, but had strong straw and gave an average performance in other respects.

General Yield Performance During Past Nine Years

Stewart has been tested in Zone 1A during each of the past two years and has outyielded the bread wheat varieties both times. Stewart is officially recommended as one of the best durum varieties for use in this zone. **Thatcher** has been used in Wheat Pool tests during eight of the past nine years, yielding first place four times, second in 1942, 1944, and 1948, and last in 1947. Its favorable performance during this period indicates that Thatcher is an excellent choice for use in the zone. **Apex** has been tested during seven of the past nine years, yielding second in 1940, third in 1941, 1943 and 1948, fourth in 1944 and 1946, and fifth in 1942. **Rescue** has been tested for three years, yielding second in 1946, third in 1947, and fourth in 1948. Rescue is officially recommended in this zone, but only for sawfly control purposes.

CEREAL VARIETY ZONE 2A

TABLE NO. 10.—SUMMARIZED RESULTS FOR ZONE 2A
(9 satisfactory tests)

	Thatcher	Apex	Rescue	Stewart
Yield in bushels per acre	20.5	19.0	18.9	24.7
Days from seeding to ripening	97.8	98.5	99.4	102.1
Height of plants in inches	27.4	27.3	29.1	34.4
Straw strength	8.9	8.8	9.1	8.1
Bushel weight in pounds	60.4	60.6	59.2	62.6
Commercial grades in percentage: 1 Nor. & 1 C.W.	50.0	30.0	30.0	50.0
2 Nor. & 2 C.W.	40.0	60.0	40.0	40.0
3 Nor. & 3 C.W.	10.0	10.0	20.0	10.0
4 Nor. & 4 C.W.	——	——	10.0	——

Necessary difference—2.6 bushels.

Table No. 10—**Stewart** outyielded the other varieties significantly, and ranked first in bushel weight and height. It was late in maturing and slightly weak in straw. **Thatcher** failed to exceed Apex and Rescue significantly in yield but it ripened early and graded well. **Apex** and **Rescue** were practically equal in yield and compared favorably with the standard variety in most other respects. Apex was considerably superior to Rescue in bushel weight and earliness. It was inferior to Rescue in plant height and straw strength.

General Yield Performance During Past Nine Years

Stewart has outyielded all other varieties during each of the two years it has been tested. It is officially recommended for use in Zone 2A. **Thatcher** has given an outstanding performance during the period under review and is recommended as the best bread wheat variety for Zone 2A. **Apex** ranked second in yield in 1940, third in 1941, 1943 and 1948, and fourth in 1942 and 1944. **Rescue** was outyielded by all other varieties in 1947 and 1948, and placed third in 1946.

CEREAL VARIETY ZONE 2B

TABLE NO. 11.—SUMMARIZED RESULTS FOR ZONE 2B
(11 satisfactory tests)

	Thatcher	Apex	Rescue	Stewart
Yield in bushels per acre	15.5	15.6	13.7	14.5
Days from seeding to ripening	97.6	99.1	100.3	104.1
Height of plants in inches	23.2	23.3	23.3	29.8
Straw strength	9.0	8.9	9.2	9.1
Bushel weight in pounds	61.1	61.7	61.4	64.3
Commercial grades in percentage: 1 Nor. & 1 C.W.	53.3	73.3	80.0	80.0
2 Nor. & 2 C.W.	40.0	26.7	20.0	13.3
3 Nor. & 3 C.W.	6.7	——	——	6.7

Necessary difference—1.4 bushels.

Table No. 11—**Apex** and **Thatcher** were practically equal in yield and exceeded Rescue in this respect by differences greater than the necessary difference for the zone. Thatcher ripened early but was slightly inferior to Apex in bushel weight and grades. Generally there appeared to be little to choose between these two varieties. **Rescue** was low in yield but produced strong straw and graded well. **Stewart,** the durum variety, was somewhat late in ripening but proved superior to the bread wheat varieties in bushel weight and height.

General Yield Performance During Past Nine Years

Apex has given only average results in Wheat Pool tests conducted in Zone 2B during the past nine years. **Thatcher** has been tested during eight of the past nine years, outyielding all other bread wheat varieties five times and ranking second three times. Thatcher is highly recommended for use in this zone. **Stewart** has given average results in tests carried out during the past two years. In 1947, throughout the southern section of the zone where moisture conditions were reasonably good, Stewart outyielded the bread wheat varieties and ranked second only to Pelissier durum. In the northern section Stewart produced relatively poor results. In 1948 Stewart ranked third in yield over the entire zone. It is officially recommended for use in Zone 2B. **Rescue** has been outyielded consistently in Wheat Pool tests carried out during the past three years in Zone 2B. It is not officially recommended for use in this area.

CEREAL VARIETY ZONE 2C

TABLE NO.12.—SUMMARIZED RESULTS FOR ZONE 2C
(3 satisfactory tests)

	Thatcher	Apex	Rescue	Stewart
Yield in bushels per acre	20.7	22.0	19.1	16.2
Days from seeding to ripening	100.0	99.0	101.5	104.0
Height of plants in inches	29.5	31.5	32.5	37.0
Straw strength	9.2	9.7	8.8	8.4
Bushel weight in pounds	63.2	64.0	62.7	66.0
Commercial grades in percentage: 1 Nor. & 1 C.W.	100.0	100.0	100.0	66.7
2 Nor. & 2 C.W.	—	—	—	—
3 Nor. & 3 C.W.	—	—	—	33.3

Necessary difference—4.7 bushels.

Table No. 12—**Apex** was high in yield but its superiority in this respect was signifcant only in the case of Stewart. Apex ripened early, had strong straw, and outweighed the other bread wheat varieties. **Thatcher** was second

in yield but failed to exceed either Rescue or Stewart significantly. Thatcher proved inferior to Apex but superior to **Rescue** in earliness, straw strength and bushel weight. **Stewart** was lower in yield, later in maturity, and weaker in straw than the other varieties. It excelled in height and weight per measured bushel.

General Yield Performance During Past Nine Years

The past season marks the first time in five years of tests with **Apex** that the variety has ranked first in yield in Zone 2C. In 1941 and 1946 Apex placed second. It was third in 1940 and fourth in 1942. The new strain, Apex 2177, has been used in Wheat Pool tests in recent years and its higher yielding ability and better straw strength are reflected by the results. Apex, however, is not considered as suitable for this zone as **Thatcher** which, over a six-year testing period, has outyielded all other varieties on three occasions and placed second during 1942, 1947, and 1948. Although **Rescue** has not shown outstanding yielding ability in Wheat Pool tests conducted in this area, its resistance to sawfly infestation is an important consideration. It ranked third in yield in Zone 2C during each of the years 1946, 1947, and 1948. Rescue is officially recommended in Zone 2C for sawfly control only. **Stewart** has been tested in this zone during each of the past two years but under the generally poor moisture conditions which have prevailed, the durum variety has been outyielded by all other varieties both times.

CEREAL VARIETY ZONE 2D

TABLE NO. 13—SUMMARIZED RESULTS FOR ZONE 2D
(5 satisfactory tests)

	Thatcher	Apex	Rescue	Stewart
Yield in bushels per acre	12.1	11.0	10.9	11.8
Days from seeding to ripening	104.8	104.0	104.3	106.0
Height of plants in inches	22.5	22.0	23.3	26.3
Straw strength	8.6	8.5	9.7	9.6
Bushel weight in pounds	62.2	62.6	61.8	63.0
Commercial grades in percentage: 1 Nor. & 1 C.W.	20.0	80.0	40.0	80.0
2 Nor. & 2 C.W.	80.0	20.0	60.0	20.0

No significant grain yield difference between varieties.

Table No. 13—The differences in yields in this zone should not be considered of significance. **Stewart** excelled in bushel weight and height, graded well and compared favorably in straw strength. It was, once again, somewhat late in maturing. **Apex** was superior to the other bread wheat varieties in bushel weight and grades. It was slightly inferior in height and straw strength. **Thatcher** proved comparatively satisfactory but green and immature kernels were evident in most samples, resulting in lowered grades. **Rescue** showed unusual straw strength and gave a generally good performance except for inferior bushel weight.

General Yield Performance During Past Nine Years

The suitability of **Thatcher** for use in this zone is demonstrated by the fact that in eight years of testing it has placed first five times and second three times. **Stewart** has been used during the past two years, yielding fourth in 1947 and second in 1948. The record of **Apex** in this zone is not outstanding. In seven years of tests, it placed second in 1941 and 1946, third in 1943 and 1948 and fourth in 1940, 1942, and 1944. **Rescue** has been tested for the past three years. It ranked third in 1947, fourth in 1948 and tied with Redman for third place in 1946. However, the sawfly resistant characteristics of the Rescue variety should be considered in the choice of a variety for use in this zone.

CEREAL VARIETY ZONE GROUP 2E AND 2F

TABLE NO. 14.—SUMMARIZED RESULTS FOR ZONE GROUP 2E and 2F
(3 satisfactory tests)

	Thatcher	Apex	Rescue	Stewart
Yield in bushels per acre	18.3	15.1	17.2	22.0
Days from seeding to ripening	86.0	87.0	89.0	89.5
Height of plants in inches	20.3	20.0	21.7	27.7
Straw strength	7.3	8.3	9.4	9.3
Bushel weight in pounds	61.8	61.8	62.7	64.3
Commercial grades in percentage: 1 Nor. & 1 C.W.	—	—	33.3	66.7
2 Nor. & 2 C.W.	33.3	66.7	66.7	33.3
3 Nor. & 3 C.W.	66.7	33.3	—	—

Necessary difference—4.8 bushels.

Table No. 14—The general ability of **Stewart** under favorable moisture conditions is once again demonstrated in this zone group where crop yields in 1948 were somewhat better than the average for the plains as a whole. Stewart exceeded Rescue in yield by a difference equal to the necessary difference for the zone and significantly outyielded Apex. It outweighed the other varieties and graded well. Stewart excelled in height and compared favorably in straw strength but was slightly late in maturing. **Thatcher** was second in yield but failed to outyield either Rescue or Apex significantly. It matured early and proved satisfactory in bushel weight but had relatively weak straw and comparatively poor grades, the latter being due mainly to the presence of green and immature kernels in the samples. **Rescue** outweighed the other bread wheat varieties and excelled in grading ability. Although slightly late in maturing, it gave a generally good performance. **Apex** was low in yield and short in straw. It was inferior to Rescue in other characteristics, with the exception of earliness.

General Yield Performance During Past Nine Years

Stewart has been tested in this area during the past two years. It outyielded all other varieties in Zone 2E on both occasions and is officially recommended for use in this zone. Only one satisfactory wheat test was carried out in Zone 2F in 1948 and Stewart was the highest yielder. In 1947, however, Stewart ranked third in yield in Zone 2F. **Thatcher** has given an excellent performance during eight years of tests and is officially recommended for use in this area. **Rescue** has been tested for the past three years. In 1946 and 1947 it was outyielded by all other varieties and in 1948 it placed third. Rescue is recommended in Zone 2F for sawfly control only. **Apex** has given an average performance over a seven-year period of testing in this area.

Left: Robert and Roy Williams, joint supervisors of a Wheat Test at Pennant.
Right: The Wheat project conducted by Alex. Savenkoff, Pelly.

CEREAL VARIETY ZONE 3A

TABLE NO. 15.—SUMMARIZED RESULTS FOR ZONE 3A
(8 satisfactory tests)

	Thatcher	Apex	Redman	Saunders
Yield in bushels per acre	25.0	23.4	21.3	17.8
Days from seeding to ripening	93.9	94.4	94.0	94.6
Height of plants in inches	28.4	29.0	28.9	27.6
Straw strength	9.6	9.3	9.1	9.0
Bushel weight in pounds	61.5	61.5	60.8	59.0
Commercial grades in percentage: 1 Nor	37.5	25.0	12.5	12.5
2 Nor	50.0	62.5	62.5	50.0
3 Nor	12.5	12.5	25.0	12.5
4 Nor	—	—	—	25.0

Necessary difference—1.8 bushels.

Table No. 15—**Thatcher** excelled in yield, earliness, commercial grades, and straw strength. It tied with Apex for first place in bushel weight. **Apex** ranked second in yield, exceeding Redman and Saunders significantly. It produced excellent bushel weight and commercial grades, excelled in height and showed no particularly unfavorable features. **Redman** gave a generally satisfactory performance but was outyielded by Thatcher and Apex. **Saunders** was inferior to the other varieties in all characteristics.

General Yield Performance During Past Nine Years

Thatcher has been tested during eight of the past nine years. It outyielded all other varieties in four years and placed second during the remaining four. Thatcher remains one of the best varieties for use in Zone 3A and it is officially recommended. **Apex** has been used in Wheat Pool tests in this area during seven of the past nine years. The new strain, (Sask. 2177), used in 1946 and again in 1948, has given better results than the original variety which placed third in yield in 1941 and 1943, fourth in 1940 and 1942, and sixth in 1944. **Redman,** although third in yield in 1948, has given a very good performance in Zone 3A. It outyielded all other varieties in 1946 and 1947 and is officially recommended for this area. **Saunders** has been used in Wheat Pool tests during the past two years and has been low yielder in Zone 3A both times.

CEREAL VARIETY ZONE 3B

TABLE NO. 16.—SUMMARIZED RESULTS FOR ZONE 3B

(15 satisfactory tests)

	Thatcher	Apex	Redman	Saunders
Yield in bushels per acre	32.6	30.6	27.6	25.0
Days from seeding to ripening	96.8	98.4	96.3	96.8
Height of plants in inches	31.7	32.3	31.5	29.8
Straw strength	9.1	8.6	9.0	9.0
Bushel weight in pounds	61.9	62.8	61.9	61.2
Commercial grades in percentage: 1 Nor.	31.2	12.5	12.5	12.5
2 Nor.	37.6	75.0	43.8	37.5
3 Nor.	31.2	12.5	43.7	43.8
4 Nor.	—	—	—	6.2

Necessary difference—1.5 bushels.

Table No. 16—**Thatcher** proved superior in this zone, outyielding all other varieties significantly. It produced the strongest straw and graded well. In other characteristics, Thatcher gave satisfactory results. **Apex** was second in yielding ability, exceeding Redman and Saunders significantly. Apex had the disadvantages of later maturity and weaker straw than the other varieties but its good plant height and excellent bushel weight should not be overlooked. **Redman** ripened early and compared favorably with Thatcher and Apex in all characteristics except grain yield. In this respect it proved definitely inferior. **Saunders** was outyielded significantly by all other varieties and failed to show any outstanding qualities.

General Yield Performance During Past Nine Years

Thatcher has been tested during eight of the past nine years. Its performance in Zone 3B has been outstanding, yielding first place during five years and second during two. In the one remaining year, 1947, when the zone was divided into two parts for purposes of analysing the Wheat Pool tests, Thatcher outyielded all other varieties in one part and placed second to Redman in the other. **Apex** has generally given a mediocre performance during seven years of tests in this zone. In 1946 and 1948, however, using the new strain (Sask. 2177), Apex ranked second in yield. On both occasions, it was exceeded only by Thatcher. **Redman** has been tested during the past three years, yielding third place in 1946 and 1948. In 1947 when Zone 3B was divided into two sections, Redman outyielded the other varieties in the eastern section adjacent to the Manitoba boundary. In the western section it yielded second to Thatcher. **Saunders** has been tested during the past two years and proved inferior in yield both times.

CEREAL VARIETY ZONE GROUP 3C AND 3D

TABLE NO. 17.—SUMMARIZED RESULTS FOR ZONE GROUP 3C and 3D
(12 satisfactory tests)

	Thatcher	Apex	Redman	Saunders
Yield in bushels per acre	26.6	24.7	21.9	21.0
Days from seeding to ripening	97.1	98.9	96.9	96.7
Height of plants in inches	30.2	30.4	29.6	28.9
Straw strength	9.2	9.1	9.0	8.7
Bushel weight in pounds	61.7	62.1	60.8	60.8
Commercial grades in percentage: 1 Nor.	40.0	40.0	33.3	33.3
2 Nor.	33.3	33.3	26.7	40.0
3 Nor.	20.0	13.4	20.0	13.4
4 Nor.	6.7	13.3	20.0	13.3

Necessary difference—1.5 bushels.

Table No. 17—**Thatcher** again outyielded all other varieties significantly. It excelled in grading ability and showed no inferior qualities. **Apex** ranked second in yield, exceeding Redman and Saunders by differences which are significant. It outweighed all other varieties and graded well. Apex was slightly late in maturing but compared favorably in other respects. **Redman** and **Saunders** were equal in bushel weight and practically equal in earliness. Although Redman exceeded Saunders in yield, the difference was not significant.

General Yield Performance During Past Nine Years

Thatcher has placed first or second in yield during each year since 1940. Its outstanding showing again in 1948 is further proof of the suitability of Thatcher for use in Zone 3C. **Apex** has given an average performance, yielding second in 1941, 1946 and 1948, third in 1943, fourth in 1940 and 1942, and sixth in 1944. **Redman** ranked third in yield in 1946 and 1948. Its performance in 1947 was excellent, yielding first in the eastern sector of 3C and second in the west. Redman is officially recommended for use in this zone. During two years of testing in Zone 3C, **Saunders** has generally shown below average results.

CEREAL VARIETY ZONE 3E

TABLE NO. 18.—SUMMARIZED RESULTS FOR ZONE 3E
(5 satisfactory tests)

	Thatcher	Apex	Redman	Saunders
Yield in bushels per acre	13.5	14.2	11.4	11.1
Days from seeding to ripening	89.0	89.8	89.0	88.8
Height of plants in inches	19.5	18.5	19.0	18.8
Straw strength	8.9	8.9	9.1	8.7
Bushel weight in pounds	62.6	62.6	61.6	61.3
Commercial grades in percentage: 1 Nor.	60.0	80.0	20.0	60.0
2 Nor.	40.0	20.0	80.0	20.0
3 Nor.	—	—	—	20.0

Necessary difference—2.1 bushels.

Table No. 18—**Apex** was high in yield, exceeding Redman and Saunders significantly. The difference between the yields of Apex and Thatcher was not significant and only slight variations were observed in the other characteristics of these two varieties. **Redman** ranked third in yield. It excelled in straw strength but proved inferior in bushel weight and grades to Thatcher and Apex. **Saunders** matured early but was outyielded by all other varieties.

General Yield Performance During Past Nine Years

The suitability of **Thatcher** for use in this zone is demonstrated by its excellent past record. It has been included in Wheat Pool tests in eight of the past nine years, outyielding all other varieties in this zone five times and placing second in 1942, 1944 and 1948. **Apex** (Sask. 2177 strain) yielded first in 1948 and second in 1946. The original strain used in tests previous to 1946 gave an average performance, yielding second in 1943, third in 1940 and 1941, and fourth in 1942 and 1944. **Redman,** tested in this area for the past three years, has not shown any particular merit. It tied with Saunders for second place in yield during 1947 and placed third in 1946 and 1948. **Saunders** ranked fourth in yield in 1948.

CEREAL VARIETY ZONE 4A

TABLE NO. 19.—SUMMARIZED RESULTS FOR ZONE 4A
(3 satisfactory tests)

	Thatcher	Apex	Redman	Saunders
Yield in bushels per acre	34.7	38.0	27.5	22.8
Days from seeding to ripening	93.7	93.3	94.7	94.0
Height of plants in inches	31.3	32.7	31.0	29.3
Straw strength	9.5	9.6	9.4	8.2
Bushel weight in pounds	62.3	62.7	62.3	61.7
Commercial grades in percentage: 1 Nor	33.3	33.3	33.3	33.3
2 Nor	66.7	66.7	66.7	66.7

Necessary difference—6.2 bushels.

Table No. 19—**Apex** outyielded Redman and Saunders by differences which are significant. It was superior to all other varieties in most characteristics but in the case of Thatcher its advantage was generally not of a marked nature. The yield results of **Thatcher** were somewhat better than those of Redman and Saunders and in most other characteristics the standard variety showed some superiority. **Redman** was third in yield and ripened slightly later than the other varieties. **Saunders** was low in yield, inferior in bushel weight and comparatively weak in straw.

General Yield Performance During Past Nine Years

In 1947 **Thatcher** tied with Saunders for first place in yield and in 1948 it placed second to Apex. In every other year since 1940, however, Thatcher has outyielded all other varieties in Wheat Pool tests in Zone 4A. Its outstanding performance is ample proof of the suitability of Thatcher for continued use in this area. **Apex** yielded in second place in 1941, 1943 and 1946. In 1944 it ranked fourth and in 1940 it placed fifth. Apex was high yielder in 1948. **Redman** has been included in Wheat Pool tests every year since 1946, yielding third place on each occasion. **Saunders** has been used in these tests for two years. It gave a promising performance in 1947 but was outyielded by all varieties in 1948. Further tests are required before definite recommendations regarding Saunders can be made.

CEREAL VARIETY ZONE GROUP 3G AND 4B

TABLE NO. 20.—SUMMARIZED RESULTS FOR ZONE GROUP 3G and 4B
(6 satisfactory tests)

	Thatcher	Apex	Redman	Saunders
Yield in bushels per acre	17.8	17.7	15.5	14.6
Days from seeding to ripening	81.0	82.0	82.0	82.0
Height of plants in inches	23.0	23.0	23.0	22.3
Straw strength	9.5	9.8	9.8	9.5
Bushel weight in pounds	61.0	61.4	60.5	60.3
Commercial grades in percentage: 1 Nor	42.8	14.3	14.3	14.3
2 Nor	28.6	57.1	28.6	57.1
3 Nor	14.3	14.3	42.8	14.3
No. 6	14.3	14.3	14.3	14.3

Necessary difference—1.8 bushels.

Table No. 20—**Thatcher** and **Apex** were practically equal in yielding ability but Thatcher ripened one day earlier and graded slightly better. Both of these varieties significantly outyielded Redman and Saunders and had better bushel weight. **Redman** failed to outyield Saunders significantly but had slightly better height, straw strength, and bushel weight.

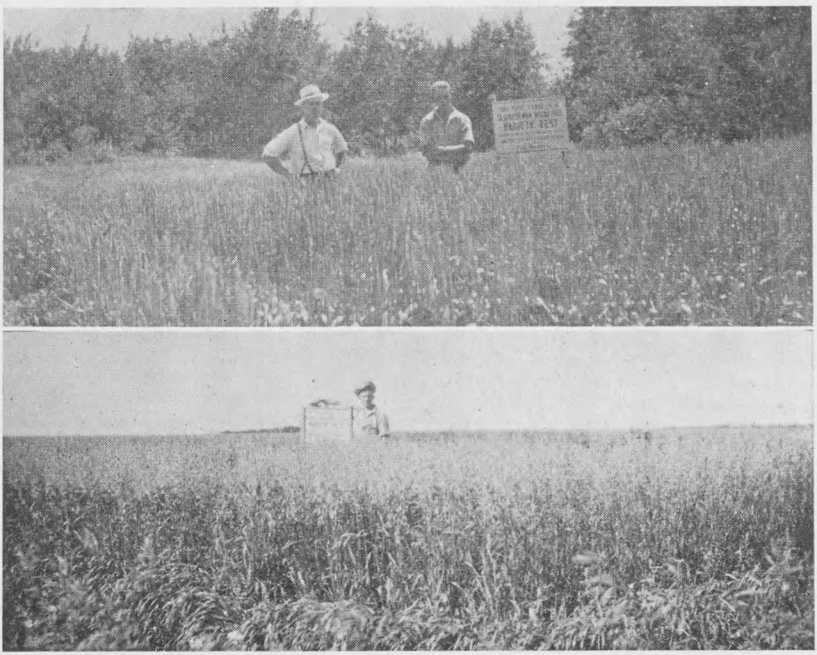
General Yield Performance During Past Nine Years

Thatcher has been used in all Wheat Pool tests conducted in this area since 1940. Almost without exception it has outyielded the other varieties. **Apex** has been tested during five of the past nine years. It ranked second in 1943, 1946 and 1948, fourth in 1944 and last in 1940. **Redman** has been used in Zone 4B for the past three years, yielding first in 1946, and third in 1947 and 1948. **Saunders** has been tested in this area for the past two years. It tied with Thatcher for first place in 1947 but gave a disappointing performance in 1948. The results of tests with this variety are as yet inconclusive and farmers should await official recommendations before beginning commercial production of Saunders.

Wayne Lowes, Wheat Test supervisor at Assiniboia. Note rain gauge mounted on post in foreground.

INDIVIDUAL RESULTS

The results of the individual wheat tests are shown in Table No. 21. The tests are listed in order of Wheat Pool districts and sub-districts. The zone in which each test was analyzed is shown under the column headed "Cereal Variety Zone." Before consulting the following table, the reader is advised to refer to the discussion on page 7 headed, "Facts to Be Remembered in Reading and Studying Results."



Top: George Barker (left), Wheat Pool delegate, inspecting the Wheat Test supervised by Fred Baseley, Jr. (right), of Spy Hill.

Bottom: The Oat Test conducted by Tony Panasiuk, Fishing Lake.

TABLE No. 21

Individual Summarized Results of All Tests—Wheat

WHEAT POOL DISTRICT 1

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bus. per acre	Days Seed-ing to Ripen-ing	Plant Height in Inches	Straw Strength	Pounds per Meas-ured Bushel	Com-mercial Grades	Grading Remarks
HARVEY MARCHAND, STORTHOAKS											
3A.....	1	2	A	Thatcher.....	26.1	—	—	—	60	2 Nor.	G., Sh.
				Apex.....	22.4	—	—	—	60	2 Nor.	G., I.
				Redman.....	21.6	—	—	—	57	3 Nor.	—
				Saunders.....	17.4	—	—	—	56	4 Nor.	—
Necessary difference—2.6 bushels.											
MICHAEL BARTOLF, OXBOW											
3A.....	1	3	A	Thatcher.....	27.2	89	22	10.0	62	2 Nor.	G., I.
				Apex.....	25.4	92	26	9.0	60	2 Nor.	G., I.
				Redman.....	23.4	88	26	10.0	61	2 Nor.	G., I.
				Saunders.....	20.1	91	24	10.0	58	2 Nor.	G., I.
Necessary difference—3.1 bushels.											
ALBERT KING, FROBISHER											
3A.....	1	4	A	Thatcher.....	9.1	103	30	—	62	1 Nor.	—
				Apex.....	8.5	103	28	—	62	1 Nor.	—
				Redman.....	8.6	103	31	—	62	1 Nor.	—
				Saunders.....	6.2	103	29	—	58	2 Nor.	—
Necessary difference—1.5 bushels.											
ANNA M. RAYNER, MACOUN											
2A.....	1	5	A	Thatcher.....	15.9	—	—	—	59	2 Nor.	—
				Apex.....	15.4	—	—	—	59	2 Nor.	—
				Rescue.....	15.2	—	—	—	57	3 Nor.	—
				Stewart.....	22.2	—	—	—	61	2 C.W.	G.
Necessary difference—2.7 bushels.											
ARLISS M. SWENSON, MIDALE											
2A.....	1	6	A	Thatcher.....	14.6	106	24	9.0	60	2 Nor.	G., I.
				Apex.....	12.8	107	19	8.6	59	2 Nor.	—
				Rescue.....	13.0	107	21	9.4	57	3 Nor.	—
				Stewart.....	18.1	107	29	9.6	63	2 C.W.	G., I.
Necessary difference—2.5 bushels.											
ELMER L. OLIVER, COLGATE											
2A.....	1	7	A	Thatcher.....	19.4	92	26	9.0	63	1 Nor.	—
				Apex.....	20.0	94	26	9.0	63	1 Nor.	—
				Rescue.....	19.3	96	28	10.0	61	1 Nor.	—
				Stewart.....	23.6	98	32	10.0	64	1 C. W.	—
Necessary difference—1.7 bushels.											
M. ELAINE CARINS, GRIFFIN											
2A.....	1	8	A	Thatcher.....	27.4	101	33	9.6	59	2 Nor.	—
				Apex.....	23.6	102	33	9.2	59	2 Nor.	—
				Rescue.....	18.0	105	35	9.0	56	4 Nor.	—
				Stewart.....	23.2	108	42	7.0	61	2 C.W.	G., I.
Necessary difference—1.9 bushels.											
DELPHINE LABERGE, FORGET											
3A.....	1	9	A	Thatcher.....	3.1	—	—	—	42	Feed	Sh.
				Apex.....	2.9	—	—	—	41	Feed	Sh.
				Redman.....	3.3	—	—	—	40	Feed	Sh.
				Saunders.....	2.7	—	—	—	38	Feed	Sh.
Samples bulked.											
LESLIE M. BROCK, WORDSWORTH											
3A.....	1	10	A	Thatcher.....	14.5	97	23	10.0	60	3 Nor.	G., I.
				Apex.....	15.8	97	25	9.0	61	3 Nor.	G., I.
				Redman.....	13.5	96	24	7.6	61	3 Nor.	G., I.
				Saunders.....	10.7	96	22	8.6	59	3 Nor.	G., I.
No significant grain yield difference between varieties.											
Tests discarded on account of damage by drought, pests, hail or other causes.											
3A.....	1	1	A	James Wilson, Carievale.							

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bus. per acre	Days Seed-ing to Ripen-ing	Plant Height in Inches	Straw Strength	Pounds per Meas-ured Bushel	Com-mercial Grades	Grading Remarks
ARLISS I. OLSON, LAKE ALMA											
2A.....	2	1	A	Thatcher.....	5.9	94	31	8.8	61	1 Nor.	—
				Apex.....	5.3	94	31	9.4	63	2 Nor.	V.G.
				Rescue.....	3.3	95	34	9.2	60	2 Nor.	V.G.
				Stewart.....	14.8	95	40	8.6	62	2 C.W.	G.
Badly damaged by birds.											
EMILIAN J. DEDORA, LAKE ALMA											
2A.....	2	1	B	Thatcher.....	19.4	—	27	—	61	1 Nor.	—
				Apex.....	16.1	—	27	—	62	1 Nor.	—
				Rescue.....	14.8	—	25	—	61	1 Nor.	—
				Stewart.....	21.0	—	33	—	65	1 C.W.	—
No significant grain yield difference between varieties.											
LORNE S. ELDER, CORONACH											
1A.....	2	3	A	Thatcher.....	27.5	95	34	10.0	63	1 Nor.	—
				Apex.....	29.8	98	37	9.6	64	1 Nor.	—
				Rescue.....	24.6	103	36	9.8	63	3 Nor.	F.
				Stewart.....	28.9	103	42	8.0	65	3 C.W.	F.
Necessary difference—1.5 bushels.											
MARTIN A. WROLSON, HARPTREE											
1A.....	2	3	B	Thatcher.....	23.5	98	28	10.0	63	1 Nor.	—
				Apex.....	22.5	98	28	10.0	64	1 Nor.	—
				Rescue.....	19.5	98	28	10.0	62	1 Nor.	—
				Stewart.....	16.9	102	30	10.0	65	1 C.W.	—
Necessary difference—2.6 bushels.											
CLARENCE J. HURZIN, ROCK GLEN											
1A.....	2	4	A	Thatcher.....	10.7	98	25	8.6	62	2 Nor.	G., I.
				Apex.....	12.3	99	27	7.6	62	2 Nor.	G., I.
				Rescue.....	9.8	99	28	8.4	62	2 Nor.	G., I.
				Stewart.....	15.1	100	35	9.2	64	1 C.W.	—
Necessary difference—2.0 bushels.											
MARTIN D. NAGEL, KILLDEER											
1A.....	2	5	A	Thatcher.....	22.2	97	27	9.0	62	2 Nor.	G., I.
				Apex.....	20.9	99	28	9.6	62	2 Nor.	G., I.
				Rescue.....	17.9	99	32	9.4	62	2 Nor.	G., I.
				Stewart.....	20.5	100	43	8.4	63	2 C.W.	G., I.
Necessary difference—1.5 bushels.											
DONALD A. BROEDER, MAXSTONE											
1A.....	2	7	A	Thatcher.....	14.9	89	23	9.0	61	1 Nor.	—
				Apex.....	13.8	93	22	8.0	62	1 Nor.	—
				Rescue.....	12.2	93	24	10.0	63	1 Nor.	—
				Stewart.....	13.9	98	36	10.0	66	1 C.W.	—
Necessary difference—1.0 bushel.											
WAYNE A. LOWES, ASSINIBOIA											
1A.....	2	8	A	Thatcher.....	17.2	102	24	9.0	63	1 Nor.	—
				Apex.....	15.3	102	24	6.0	62	1 Nor.	—
				Rescue.....	17.7	104	32	10.0	62	1 Nor.	—
				Stewart.....	19.7	110	34	8.6	66	1 C.W.	—
Necessary difference—2.1 bushels.											
JOHNNY N. NEAMTU, WHEATSTONE											
1A.....	2	9	A	Thatcher.....	22.7	—	—	—	61	1 Nor.	—
				Apex.....	21.6	—	—	—	61	1 Nor.	—
				Rescue.....	19.5	—	—	—	60	1 Nor.	—
				Stewart.....	22.5	—	—	—	57	4 C.W.	G.
No significant grain yield difference between varieties.											
KENNETH W. LOUCKS, PANGMAN											
2A.....	2	10	A	Thatcher.....	13.1	97	21	6.0	59	2 Nor.	—
				Apex.....	12.2	98	20	6.4	59	2 Nor.	—
				Rescue.....	10.4	98	20	7.4	58	2 Nor.	—
				Stewart.....	8.8	100	23	6.8	63	1 C.W.	—
Necessary difference—1.2 bushels.											

Tests discarded on account of damage by drought, pests, hail, or other causes.

1A.....	2	6	A	Leo. W. Greffard, Fir Mountain.
1A.....	2	9	B	J. Keith Warren, Ogema.

WHEAT POOL DISTRICT 3

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bus. per acre	Days Seed-ing to Ripen-ing	Plant Height in Inches	Straw Strength	Pounds per Meas-ured Bushel	Com-mercial Grades	Grading Remarks
WILBUR D. WILSON, McCORD											
1A.....	3	1	A	Thatcher.....	7.8	—	13	—	61	2 Nor.	G., I.
				Apex.....	5.3	—	13	—	62	3 Nor.	G., I.
				Rescue.....	4.2	—	14	—	57	4 Nor.	G.
				Stewart.....	2.1	—	15	—	62	2 C.W.	G., I.
Necessary difference—1.2 bushels.											
DONALD E. NEELY, CARNAGH											
2C.....	3	6	A	Thatcher.....	21.4	97	31	10.0	64	1 Nor.	—
				Apex.....	23.4	97	33	10.0	65	1 Nor.	—
				Rescue.....	20.8	98	36	9.0	64	1 Nor.	—
				Stewart.....	24.5	100	41	8.0	67	1 C.W.	S.P.
Necessary difference—2.2 bushels.											
F. ALEX JAMIESON, SHAUNAVON											
1A.....	3	8	A	Thatcher.....	7.3	104	21	10.0	63	1 Nor.	—
				Apex.....	8.8	105	27	10.0	61	1 Nor.	—
				Rescue.....	9.8	107	25	10.0	61	1 Nor.	—
				Stewart.....	14.2	110	32	8.0	65	1 C.W.	—
Damaged by birds and grasshoppers.											
DANIEL RUEST, ADMIRAL											
1A.....	3	9	A	Thatcher.....	22.3	95	23	9.0	62	2 Nor.	G., I.
				Apex.....	19.4	96	19	9.0	62	2 Nor.	G., I.
				Rescue.....	18.9	99	32	10.0	63	2 Nor.	G., I.
				Stewart.....	15.8	100	35	9.0	63	2 C.W.	G.
Necessary difference—2.3 bushels.											

Tests discarded on account of damage by drought, pests, hail, or other causes.

1A.....	3	4	A	George W. Brackenbury, Divide.
1C.....	3	5	A	Palmer L. Wenaas, Robsart.
1C.....	3	5	B	Peder L. Wenaas, Robsart.
1A.....	3	7	A	Jack B. Nielson, Eastend.

WHEAT POOL DISTRICT 4

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bus. per acre	Days Seed-ing to Ripen-ing	Plant Height in Inches	Straw Strength	Pounds per Meas-ured Bushel	Com-mercial Grades	Grading Remarks
CLARENCE HONSVALL, TOMPKINS											
1A.....	4	1	A	Thatcher.....	16.6	88	23	10.0	63	1 Nor.	—
				Apex.....	15.1	88	24	10.0	64	2 Nor.	G., I.
				Rescue.....	17.2	91	28	10.0	62	1 Nor.	—
				Stewart.....	22.6	100	32	8.8	67	1 C.W.	—
Necessary difference—2.1 bushels.											
SHIRLEY A. MOCH, HATTON											
1B.....	4	2	A	Thatcher.....	4.2	—	—	—	56	4 Nor.	—
				Apex.....	4.6	—	—	—	60	2 Nor.	G., I.
				Rescue.....	3.0	—	—	—	59	2 Nor.	—
				Stewart.....	3.8	—	—	—	63	1 C.W.	—
Samples bulked.											
BUDDY J. DYCK, SWIFT CURRENT											
2C.....	4	3	A	Thatcher.....	19.3	103	28	9.0	62	1 Nor.	—
				Apex.....	20.5	101	30	9.4	63	1 Nor.	—
				Rescue.....	16.7	105	29	8.6	62	1 Nor.	—
				Stewart.....	8.9	108	33	8.8	66	1 C.W.	—
Necessary difference—2.6 bushels.											
ALFRED BAUER, MENDHAM											
1B.....	4	8	A	Thatcher.....	4.4	92	12	8.8	63	1 Nor.	—
				Apex.....	4.9	92	11	9.0	63	1 Nor.	—
				Rescue.....	3.7	98	12	9.6	61	2 Nor.	I., Bl.
				Stewart.....	2.5	98	12	8.5	64	1 C.W.	—
Stewart badly damaged by grasshoppers.											

Tests discarded on account of damage by drought, pests, hail, or other causes.

1A.....	4	1	B	Douglas J. Borman, Piapot.
1A.....	4	5	A	Roy and Robert Williams, Pennant.
1B.....	4	7	A	Kenneth Brost, Horsham.
1A.....	4	10	A	Orval and Donald Sannes, Hazlet.

WHEAT POOL DISTRICT 5

Cereal Variety Zone	Dist.	Sub. Dist.	Test Designation	Varieties	Yield Bus. per acre	Days Seeding to Ripening	Plant Height in Inches	Straw Strength	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
T. MURRAY PATTERSON, MOSSBANK											
1A.....	5	1	A	Thatcher.....	19.7	—	30	—	62	1 Nor.	—
				Apex.....	19.7	—	30	—	63	1 Nor.	—
				Rescue.....	22.3	—	30	—	61	2 Nor.	G., I., Pk., Sh.
				Stewart.....	36.3	—	32	—	65	1 C.W.	—
Necessary difference—2.9 bushels.											
WILFRED V. OEHLERKING, GRAVELBOURG											
1A.....	5	2	A	Thatcher.....	15.4	—	—	—	62	1 Nor.	—
				Apex.....	15.3	—	—	—	61	1 Nor.	—
				Rescue.....	15.7	—	—	—	61	1 Nor.	—
				Stewart.....	21.8	—	—	—	65	1 C.W.	—
Necessary difference—1.1 bushels.											
A. WAYNE DAWSON, NEVILLE											
2C.....	5	3	A	Thatcher.....	21.3	—	—	—	63	1 Nor.	—
				Apex.....	22.0	—	—	—	64	1 Nor.	—
				Rescue.....	19.9	—	—	—	62	1 Nor.	—
				Stewart.....	15.3	—	—	—	65	3 C.W.	V.G.
Necessary difference—1.3 bushels.											
LEONA B. VEER, WALDECK											
1A.....	5	4	A	Thatcher.....	13.6	116	20	10.0	62	2 Nor.	G., I.
				Apex.....	14.4	117	21	9.8	63	1 Nor.	—
				Rescue.....	11.8	121	24	9.0	61	2 Nor.	G., I.
				Stewart.....	14.3	121	30	8.0	65	1 C.W.	—
Necessary difference—1.0 bushel.											
DENIS E. GAGNON, CODERRE											
1A.....	5	6	A	Thatcher.....	3.1	90	18	5.6	60	1 Nor.	—
				Apex.....	1.8	88	16	7.2	61	1 Nor.	—
				Rescue.....	1.7	90	17	9.2	61	1 Nor.	—
				Stewart.....	5.0	90	22	10.0	62	1 C.W.	—
Damaged by birds.											
DONALD G. MacLACHLAN, ESKBANK											
2B.....	5	8	A	Thatcher.....	13.0	106	18	10.0	60	2 Nor.	G., I.
				Apex.....	14.2	105	19	9.6	61	1 Nor.	—
				Rescue.....	14.7	105	19	9.8	60	1 Nor.	—
				Stewart.....	11.8	114	23	10.0	64	1 C.W.	—
No significant grain yield difference between varieties.											
R. HUGH SKELDON, UREN											
1A.....	5	9	A	Thatcher.....	1.4	111	12	9.8	62	2 Nor.	G., I.
				Apex.....	1.4	111	12	10.0	61	2 Nor.	G., I.
				Rescue.....	5.0	111	16	10.0	62	1 Nor.	—
				Stewart.....	4.2	111	18	9.8	64	2 C.W.	BP.
Badly damaged by grasshoppers.											
JAMES C. McKAY, LOG VALLEY											
1A.....	5	10	A	Thatcher.....	18.6	92	18	10.0	64	3 Nor.	G., I.
				Apex.....	17.3	92	18	8.0	64	3 Nor.	G., I.
				Rescue.....	16.2	96	20	10.0	63	2 Nor.	I., Pk., Sh.
				Stewart.....	16.8	98	26	8.0	65	1 C.W.	—
No significant grain yield difference between varieties.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
1A.....	5	5	A	Ronald J. Rambow, Hodgeville.							

WHEAT POOL DISTRICT 6

Cereal Variety Zone	Dist.	Sub. Dist.	Test Designation	Varieties	Yield Bus. per acre	Days Seeding to Ripening	Plant Height in Inches	Straw Strength	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
GEORGIAN E. GEIGER, CEDOUX											
2A.....	6	1	A	Thatcher.....	39.1	87	29	10.0	62	1 Nor.	—
				Apex.....	39.7	89	31	9.0	61	2 Nor.	G., I.
				Rescue.....	42.6	87	34	9.0	60	2 Nor.	G., I.
				Stewart.....	55.8	90	40	7.0	64	1 C.W.	—
Necessary difference—4.4 bushels.											
EDWARD C. WILD, ODESSA											
2A.....	6	2	A	Thatcher.....	19.6	105	31	8.6	62	1 Nor.	—
				Apex.....	19.1	104	32	8.8	63	1 Nor.	—
				Rescue.....	19.5	105	35	9.4	61	2 Nor.	G., I.
				Stewart.....	25.1	106	36	7.6	58	3 C.W.	G.
Necessary difference—1.7 bushels											

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bus. per acre	Days Seed-ing to Ripen-ing	Plant Height in Inches	Straw Strength	Pounds per Meas-ured Bushel	Com-mercial Grades	Grading Remarks
FRANK SATTLER, MILESTONE											
2E.....	6	3	A	Thatcher.....	21.9	95	21	7.8	62	3 Nor.	G., I.
				Apex.....	16.5	96	20	8.6	61	3 Nor.	G., I.
				Rescue.....	17.9	96	19	9.8	63	2 Nor.	G., I.
				Stewart.....	19.6	99	24	10.0	64	1 C.W.	—
Necessary difference—1.9 bushels.											
ARNOLD FILAZEK, SPRING VALLEY											
1A.....	6	4	A	Thatcher.....	19.6	104	26	10.0	64	1 Nor.	—
				Apex.....	18.0	104	25	10.0	64	1 Nor.	—
				Rescue.....	20.4	108	30	10.0	62	1 Nor.	—
				Stewart.....	24.2	110	34	10.0	65	1 C.W.	—
Necessary difference—2.4 bushels.											
PATRICIA A. HUNT, BAILDON											
1A.....	6	5	B	Thatcher.....	23.0	—	24	10.0	63	1 Nor.	—
				Apex.....	22.9	—	25	9.2	64	1 Nor.	—
				Rescue.....	21.9	—	26	10.0	63	1 Nor.	—
				Stewart.....	20.2	—	24	9.2	68	1 C.W.	—
Necessary difference—1.6 bushels.											
STANLEY K. HILTS, DRINKWATER											
2E.....	6	6	A	Thatcher.....	18.1	105	25	9.0	62	1 Nor.	—
				Apex.....	19.4	109	26	7.0	63	1 Nor.	—
				Rescue.....	16.7	109	27	8.0	61	2 Nor.	G., I.
				Stewart.....	—	—	—	—	—	—	—
Stewart destroyed by grasshoppers.											
MELITA V. PITTENDRIGH, ZEHNER											
2E.....	6	7	A	Thatcher.....	14.7	—	15	6.2	61	3 Nor.	G., I.
				Apex.....	13.9	—	14	8.0	61	2 Nor.	G., Sh.
				Rescue.....	13.4	—	20	9.6	62	2 Nor.	G., Sh.
				Stewart.....	17.0	—	24	9.0	64	2 C.W.	G., I.
Necessary difference—1.9 bushels.											
RON K. CALLANDER, INDIAN HEAD											
3C.....	6	8	A	Thatcher.....	21.7	93	—	7.0	63	1 Nor.	—
				Apex.....	18.8	93	—	7.6	64	1 Nor.	—
				Redman.....	22.2	92	—	7.2	62	1 Nor.	—
				Saunders.....	21.0	93	—	6.6	62	1 Nor.	—
No significant grain yield difference between varieties.											
RAY J. KISTNER, DISLEY											
2B.....	6	10	B	Thatcher.....	15.4	93	23	9.6	63	1 Nor.	—
				Apex.....	16.8	96	22	9.4	63	1 Nor.	—
				Rescue.....	14.1	94	23	9.0	62	1 Nor.	—
				Stewart.....	15.5	95	23	9.0	63	2 C.W.	G.
No significant grain yield difference between varieties.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
2E.....	6	2	B	George R. West, Riceton.							
2E.....	6	5	A	George G. Fowler, Tuxford.							
2E.....	6	10	A	Roy Pearce, R.R. No. 1, Regina.							

WHEAT POOL DISTRICT 7

C. BOB RENWICK, RYERSON											
3A.....	7	1	A	Thatcher.....	37.5	81	27	9.0	61	2 Nor.	G., I.
				Apex.....	29.7	80	26	9.0	61	2 Nor.	G., I.
				Redman.....	30.9	83	27	9.0	60	2 Nor.	G., I.
				Saunders.....	23.4	82	26	9.0	56	4 Nor.	G.
Necessary difference—2.0 bushels.											
T. ELVIN AXTEN, MOOSOMIN											
3B.....	7	2	A	Thatcher.....	34.1	99	34	—	61	2 Nor.	G., I.
				Apex.....	33.3	99	37	—	61	2 Nor.	G., I.
				Redman.....	28.4	97	35	—	60	3 Nor.	G., I.
				Saunders.....	22.0	97	31	—	57	4 Nor.	G., I.
Necessary difference—3.4 bushels.											

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bus. per acre	Days Seed-ing to Ripen-ing	Plant Height in Inches	Straw Strength	Pounds per Meas-ured Bushel	Com-mercial Grades	Grading Remarks
RICHARD J. SANTO, BENDER											
3A.....	7	4	A	Thatcher.....	26.4	95	36	9.8	63	1 Nor.	—
				Apex.....	27.5	95	36	9.6	64	1 Nor.	—
				Redman.....	23.2	95	35	9.2	63	2 Nor.	G., I.
				Saunders.....	19.5	95	35	8.8	62	1 Nor.	—
Necessary difference—2.5 bushels.											
JAMES A. CARNEGIE, CREELMAN											
2A.....	7	5	A	Thatcher.....	16.3	100	25	10.0	58	3 Nor.	G., I.
				Apex.....	11.8	100	27	10.0	58	3 Nor.	G., I.
				Rescue.....	17.7	102	30	9.2	61	1 Nor.	—
				Stewart.....	24.1	113	35	8.0	65	1 C.W.	—
Necessary difference—1.3 bushels.											
JOHN G. HENGEN, PEEBLES											
3A.....	7	6	A	Thatcher.....	32.2	103	31	9.0	61	1 Nor.	—
				Apex.....	32.2	104	32	9.0	61	2 Nor.	G., I.
				Redman.....	25.2	104	29	8.6	60	2 Nor.	G., Sh.
				Saunders.....	21.1	104	29	7.6	60	2 Nor.	G., Sh.
Necessary difference—3.6 bushels.											
ROBERT J. ARCHER, BROADVIEW											
3A.....	7	7	A	Thatcher.....	27.3	89	30	10.0	63	2 Nor.	G., I.
				Apex.....	25.9	90	30	10.0	63	2 Nor.	G., I.
				Redman.....	23.6	89	30	10.0	62	2 Nor.	G., I.
				Saunders.....	24.0	91	28	10 0	63	2 Nor.	G., I.
No significant grain yield difference between varieties.											
BRUCE P. COLEMAN, WHITEWOOD											
3C.....	7	8	A	Thatcher.....	12.7	—	39	9.2	60	3 Nor.	G., Pk., Sh.
				Apex.....	14.8	—	39	8.6	60	4 Nor.	G., Pk., Sh.
				Redman.....	11.3	—	37	9.2	61	4 Nor.	G., Pk., Sh.
				Saunders.....	12.0	—	35	9.2	61	4 Nor.	G., Pk., Sh.
Damaged by livestock.											
FRED W. BASELEY, JR., SPY HILL											
3B.....	7	9	A	Thatcher.....	40.0	95	42	9.0	61	3 Nor.	G., I.
				Apex.....	41.0	97	42	5.6	63	2 Nor.	G., I.
				Redman.....	39.3	92	42	7.4	62	3 Nor.	G., I.
				Saunders.....	31.9	92	42	8.0	61	3 Nor.	G., I.
Necessary difference—2.5 bushels.											
ALVIN S. HANOWSKI, KILLALY											
3C.....	7	11	A	Thatcher.....	26.3	94	34	9.2	62	2 Nor.	G., I.
				Apex.....	19.1	95	35	9.2	63	1 Nor.	—
				Redman.....	18.1	94	33	9.6	61	2 Nor.	G., I.
				Saunders.....	16.3	94	31	9.2	61	2 Nor.	G., I.
Necessary difference—2.0 bushels.											

WHEAT POOL DISTRICT 8

GEORGE C. SCHAPPERT, SALTCOATS											
3B.....	8	1	A	Thatcher.....	22.7	104	34	9.8	61	2 Nor.	G., I.
				Apex.....	24.1	103	34	9.4	64	2 Nor.	G., I.
				Redman.....	18.5	104	33	9.4	62	2 Nor.	G., I.
				Saunders.....	17.2	105	31	9.4	60	3 Nor.	G., I.
Necessary difference—2.9 bushels.											
GEORGE PURICH, WROXTON											
3B.....	8	1	B	Thatcher.....	28.5	102	35	10.0	60	3 Nor.	G., I.
				Apex.....	25.0	102	36	10.0	62	2 Nor.	G., I.
				Redman.....	21.5	102	34	10.0	62	2 Nor.	G., I.
				Saunders.....	17.1	102	33	10.0	59	3 Nor.	G., I.
Necessary difference—2.1 bushels.											
JAMES J. ROONEY, SALTCOATS											
3B.....	8	2	A	Thatcher.....	24.3	—	—	—	62	1 Nor.	—
				Apex.....	22.1	—	—	—	63	2 Nor.	G., I.
				Redman.....	16.6	—	—	—	63	2 Nor.	G., I.
				Saunders.....	18.9	—	—	—	62	2 Nor.	G., I.
Necessary difference—3.3 bushels.											

Cereal Variety Zone	Dist.	Sub. Dist.	Test Designation	Varieties	Yield Bus. per acre	Days Seeding to Ripening	Plant Height in Inches	Straw Strength	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
GEORGE E. LAZURKO, WILLOWBROOK											
3C.....	8	4	A	Thatcher.....	14.7	84	14	9.6	59	4 Nor.	G., I.
				Apex.....	15.8	84	14	9.0	60	4 Nor.	G., I.
				Redman.....	12.7	84	15	9.0	57	4 Nor.	G., I.
				Saunders.....	13.2	84	14	9.0	57	4 Nor.	G., I.
Necessary difference—1.4 bushels.											
JOSEPH J. RATUSHNIAK, AMSTERDAM											
3B.....	8	6	A	Thatcher.....	28.3	92	31	8.8	59	3 Nor.	G., I.
				Apex.....	30.2	94	33	9.2	60	3 Nor.	G., I.
				Redman.....	25.4	92	32	9.4	60	3 Nor.	G., I.
				Saunders.....	22.4	93	30	9.0	59	3 Nor.	G., I.
Necessary difference—3.7 bushels.											
BILL SAMCHUK, RAMA											
3C.....	8	7	A	Thatcher.....	36.5	109	41	10.0	60	3 Nor.	G., I.
				Apex.....	38.5	109	40	10.0	62	2 Nor.	G., I.
				Redman.....	33.7	107	41	10.0	62	2 Nor.	G., I.
				Saunders.....	27.1	106	39	10.0	59	3 Nor.	I., Pk., Sh.
Necessary difference—2.4 bushels.											
ALEX SAVENKOFF, PELLY											
3B.....	8	10	A	Thatcher.....	51.0	98	41	9.0	63	2 Nor.	G., I.
				Apex.....	50.7	100	44	8.0	64	2 Nor.	G., I.
				Redman.....	43.8	98	41	9.0	62	2 Nor.	G., I.
				Saunders.....	37.8	95	38	10.0	61	2 Nor.	G., I.
Necessary difference—3.9 bushels.											
DONALD BERNDT, VERIGIN											
3B.....	8	5	A	Thatcher.....	7.6	100	—	10.0	63	2 Nor.	G.I.
				Apex.....	11.6	99	—	10.0	63	2 Nor.	G.I.,Stch
				Redman.....	18.1	99	—	10.0	63	2 Nor.	G.I.,Stch
				Saunders	19.9	98	—	10.0	62	2 Nor.	G., Stch
Damaged by livestock.											

WHEAT POOL DISTRICT 9

JOE H. HILLIAR, ITUNA											
3C.....	9	1	A	Thatcher.....	9.6	—	—	—	58	2 Nor.	Bl.
				Apex.....	10.0	—	—	—	60	2 Nor.	Bl.
				Redman.....	8.6	—	—	—	58	2 Nor.	Bl.
				Saunders.....	7.4	—	—	—	59	2 Nor.	Bl.
No significant grain yield difference between varieties.											
DAN SMYSNIUK, BEDFORDVILLE											
3C.....	9	1	B	Thatcher.....	43.0	96	32	10.0	62	2 Nor.	G., I.
				Apex.....	42.3	98	31	10.0	62	1 Nor.	—
				Redman.....	35.7	94	32	10.0	61	1 Nor.	—
				Saunders.....	34.9	93	31	10.0	61	2 Nor.	G., I.
Necessary difference—2.7 bushels.											
ERNEST ORBAN, PUNNICHY											
3C.....	9	3	A	Thatcher.....	40.1	—	30	8.0	64	1 Nor.	S.Bl.
				Apex.....	37.6	—	31	9.0	64	2 Nor.	G., I.
				Redman.....	36.5	—	30	9.0	64	1 Nor.	—
				Saunders.....	36.3	—	29	7.0	64	1 Nor.	—
No significant grain yield difference between varieties.											
THOMAS L. CARDIFF, CYMRIC											
2B.....	9	5	A	Thatcher.....	5.9	100	24	9.0	59	2 Nor.	—
				Apex.....	5.2	100	23	9.0	60	2 Nor.	Bl.
				Rescue.....	7.2	101	22	10.0	61	2 Nor.	Bl.
				Stewart.....	2.8	102	23	9.0	64	1 C.W.	—
Severe grasshopper damage. Samples incomplete.											
GEORGE H. HERBER, DUVAL											
3C.....	9	5	B	Thatcher.....	22.7	—	29	9.0	62	3 Nor.	G., I.
				Apex.....	21.2	—	27	9.0	62	3 Nor.	G., I.
				Redman.....	16.3	—	28	8.0	61	3 Nor.	G., I.
				Saunders.....	15.2	—	27	8.0	61	3 Nor.	G., I.
Necessary difference—2.0 bushels.											

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bus. per acre	Days Seed-ing to Ripen-ing	Plant Height in Inches	Straw Strength	Pounds per Meas-ured Bushel	Com-mercial Grades	Grading Remarks
DOUGLAS KIRK, NOKOMIS											
2B.....	9	6	A	Thatcher.....	9.9	—	—	—	60	1 Nor.	—
				Apex.....	8.7	—	—	—	60	1 Nor.	—
				Rescue.....	6.8	—	—	—	58	2 Nor.	—
				Stewart.....	2.5	—	—	—	59	3 C.W.	—
Necessary difference—1.9 bushels.											
JOHN HAGER, QUINTON											
3C.....	9	7	A	Thatcher.....	6.4	97	24	—	61	1 Nor.	—
				Apex.....	5.3	107	24	—	61	2 Nor.	G., I.
				Redman.....	4.7	95	24	—	60	3 Nor.	G., I.
				Saunders.....	5.1	97	24	—	60	2 Nor.	G., I.
Badly damaged by hail.											
WERNER E. TORWALT, JANSEN											
2B.....	9	8	A	Thatcher.....	26.1	—	—	—	61	2 Nor.	Bl.
				Apex.....	22.2	—	—	—	61	2 Nor.	Bl.
				Rescue.....	20.7	—	—	—	61	1 Nor.	—
				Stewart.....	18.5	—	—	—	65	1 C.W.	—
Samples incomplete.											
BILLY D. KELLS, ELFROS											
3C.....	9	10	A	Thatcher.....	35.4	—	31	10.0	63	1 Nor.	—
				Apex.....	31.0	—	31	9.8	64	1 Nor.	—
				Redman.....	28.9	—	30	10.0	61	2 Nor.	G., I.
				Saunders.....	28.5	—	29	8.6	62	1 Nor.	—
Necessary difference—1.9 bushels.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
3C	9	2	A	Edward J. Feigel, Dysart.							
3C.....	9	4	A	N. Douglass MacDougall, Craven.							
2B.....	9	6	B	Laurence E. Bartel, Drake.							

WHEAT POOL DISTRICT 10

FRANK J. BALL, DILKE											
2B.....	10	1	B	Thatcher.....	8.8	86	18	8.2	61	1 Nor.	S. Bl.
				Apex.....	7.8	87	20	8.8	62	1 Nor.	—
				Rescue.....	7.7	87	20	9.2	62	1 Nor.	—
				Stewart.....	8.2	90	28	8.0	65	1 C.W.	—
No significant grain yield difference between varieties.											
GORDON J. MEADEN, BEECHY											
1A.....	10	3	A	Thatcher.....	3.0	94	12	10.0	60	1 Nor.	—
				Apex.....	3.6	94	12	10.0	60	1 Nor.	—
				Rescue.....	—	—	—	—	—	—	—
				Stewart.....	—	—	—	—	—	—	—
Severely damaged by grasshoppers.											
MARTIN HOPKINS, BRATTON											
2B.....	10	5	A	Thatcher.....	17.3	109	30	—	63	1 Nor.	—
				Apex.....	17.6	110	30	—	63	1 Nor.	—
				Rescue.....	17.5	109	30	—	62	1 Nor.	—
				Stewart.....	20.7	109	36	—	63	1 C.W.	—
No significant grain yield difference between varieties.											
O. GORDON SILVERTHORN, ARDATH											
2B.....	10	5	B	Thatcher.....	7.7	97	21	9.8	59	3 Nor.	G., I.
				Apex.....	6.8	102	20	9.8	60	2 Nor.	G., I.
				Rescue.....	5.1	109	21	9.8	60	2 Nor.	G., I.
				Stewart.....	2.3	110	24	10.0	64	2 C.W.	G., I.
Badly damaged by grasshoppers.											
ERNEST ERLANDSON, OUTLOOK											
2B.....	10	6	A	Thatcher.....	16.8	93	23	9.4	62	1 Nor.	—
				Apex.....	15.6	96	22	8.4	63	1 Nor.	—
				Rescue.....	12.9	98	24	9.8	61	1 Nor.	—
				Stewart.....	12.7	103	34	8.4	64	1 C.W.	—
Necessary difference—1.7 bushels.											
NORMAN F. CALLAWAY, DAVIDSON											
2B.....	10	7	B	Thatcher.....	24.8	102	30	9.2	62	1 Nor.	—
				Apex.....	24.3	104	31	8.8	61	1 Nor.	—
				Rescue.....	18.5	109	28	9.8	62	1 Nor.	—
				Stewart.....	20.2	109	37	8.6	65	1 C.W.	—
Necessary difference—1.3 bushels.											

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bus. per acre	Days Seed-ing to Ripen-ing	Plant Height in Inches	Straw Strength	Pounds per Meas-ured Bushel	Com-mercial Grades	Grading Remarks
TERRY G. TANNAHILL, LIBERTY											
2B.....	10	8	A	Thatcher.....	7.0	—	18	—	61	2 Nor.	I., Bl.
				Apex.....	4.7	—	18	—	61	2 Nor.	I., Bl.
				Rescue.....	7.0	—	18	—	62	1 Nor.	S. Bl.
				Stewart.....	11.0	—	36	—	65	1 C.W.	—
Damaged by grasshoppers.											
WALTER J. ANDERSON, SWANSON											
2B.....	10	10	A	Thatcher.....	11.4	95	18	7.0	60	2 Nor.	Bl.
				Apex.....	12.3	96	19	6.8	63	1 Nor.	—
				Rescue.....	10.7	96	21	6.8	63	1 Nor.	—
				Stewart.....	15.9	106	26	8.6	67	1 C.W.	—
Necessary difference—1.8 bushels.											
D. GLENN ADAIR, HARRIS											
2B.....	10	10	C	Thatcher.....	14.5	—	—	—	59	2 Nor.	Bl.
				Apex.....	15.1	—	—	—	60	1 Nor.	—
				Rescue.....	12.0	—	—	—	60	1 Nor.	—
				Stewart.....	11.4	—	—	—	63	1 C.W.	—
Necessary difference—1.6 bushels.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
1A.....	10	4	A	Gardiner Facca, Wiseton.							
2B.....	10	10	B	Walter M. Campbell, Tessier.							

WHEAT POOL DISTRICT 11

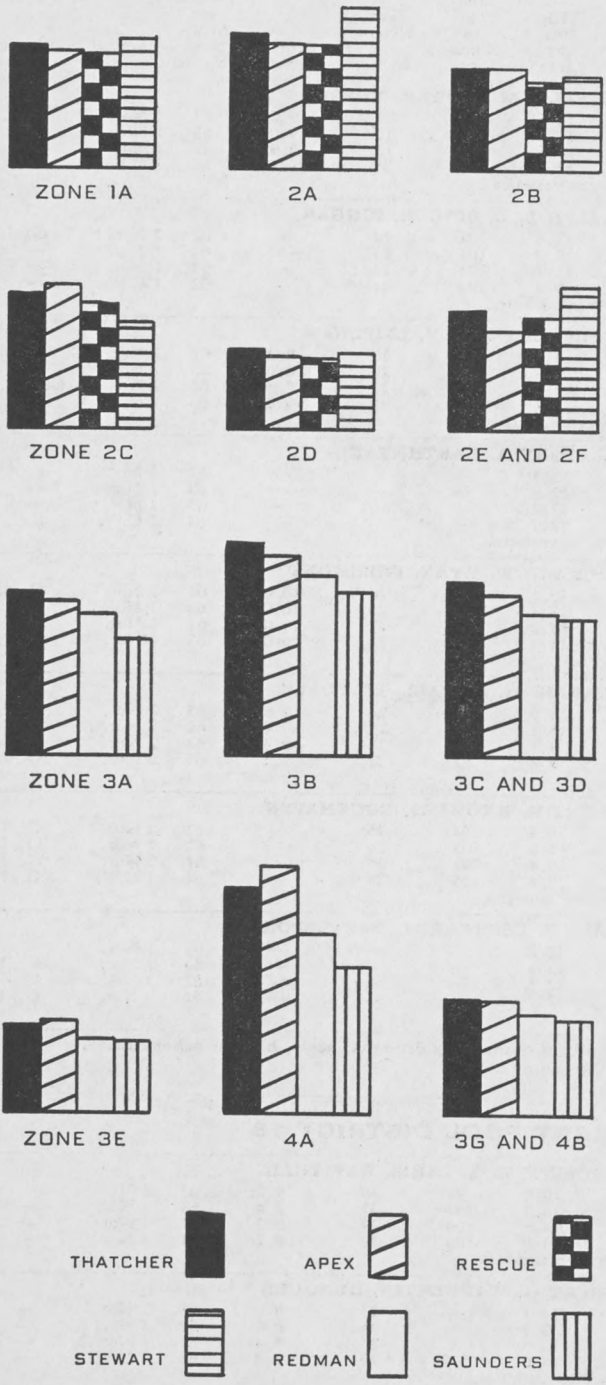
DONALD F. PITTMAN, KYLE											
1A.....	11	1	A	Thatcher.....	13.3	—	—	—	62	1 Nor.	—
				Apex.....	11.6	—	—	—	63	1 Nor.	—
				Rescue.....	13.4	—	—	—	64	1 Nor.	—
				Stewart.....	13.7	—	—	—	66	1 C.W.	—
No significant grain yield difference between varieties.											
RICHARD A. HAMILTON, KYLE											
1A.....	11	1	B	Thatcher.....	26.3	99	28	10.0	62	1 Nor.	—
				Apex.....	26.1	99	29	9.0	64	1 Nor.	—
				Rescue.....	25.5	99	30	10.0	62	1 Nor.	—
				Stewart.....	36.4	103	37	10.0	63	1 C.W.	—
Necessary difference—4.1 bushels.											
JOHN G. JAGOW, ELROSE											
2F.....	11	2	A	Thatcher.....	18.3	77	25	8.0	62	2 Nor.	G., I.
				Apex.....	14.8	78	26	8.2	63	2 Nor.	G., I.
				Rescue.....	20.2	78	26	8.8	63	1 Nor.	—
				Stewart.....	29.4	80	35	9.0	65	1 C.W.	—
Necessary difference—4.4 bushels.											
GWEN M. STRUTT, BROCK											
1A.....	11	6	A	Thatcher.....	19.4	—	24	8.0	63	1 Nor.	—
				Apex.....	17.1	—	26	8.4	64	1 Nor.	—
				Rescue.....	17.5	—	25	8.4	63	1 Nor.	—
				Stewart.....	12.4	—	32	7.4	65	1 C.W.	—
Necessary difference—3.1 bushels.											
HENRY P. WICHERT, FISKE											
1A.....	11	8	B	Thatcher.....	4.0	—	—	—	61	1 Nor.	—
				Apex.....	3.5	—	—	—	60	1 Nor.	—
				Rescue.....	7.2	—	—	—	61	1 Nor.	—
				Stewart.....	4.9	—	—	—	63	1 C.W.	—
Badly damaged by grasshoppers.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
2F.....	11	3	A	W. Jack Britton, Eston.							
2B.....	11	7	A	Richard C. Kerr, Rosetown.							
2F.....	11	8	A	Dorothy E. and Barbara M. Spence, Herschel.							

WHEAT POOL DISTRICT 12

Cereal Variety Zone	Dist.	Sub. Dist.	Test Designation	Varieties	Yield Bus. per acre	Days Seeding to Ripening	Plant Height in Inches	Straw Strength	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
PHYLLIS M. POTTER, BIGGAR											
2D.....	12	1	A	Thatcher.....	12.5	112	21	9.0	63	2 Nor.	G., I.
				Apex.....	11.4	110	20	9.0	63	1 Nor.	—
				Rescue.....	11.5	114	22	10.0	61	2 Nor.	G., I.
				Stewart.....	11.4	116	25	10.0	62	1 C.W.	—
No significant grain yield difference between varieties.											
RALPH L. E. SINGER, BIGGAR											
2D.....	12	2	A	Thatcher.....	12.4	104	24	—	62	2 Nor.	G., I.
				Apex.....	9.9	104	24	—	62	1 Nor.	—
				Rescue.....	11.1	104	24	—	62	1 Nor.	—
				Stewart.....	9.4	104	24	—	62	1 C.W.	—
No significant grain yield difference between varieties.											
ROBERT J. CEY, LEIPZIG											
2D.....	12	3	A	Thatcher.....	5.9	99	20	8.2	62	2 Nor.	G., Pk., Sh.
				Apex.....	5.8	99	20	8.0	63	1 Nor.	—
				Rescue.....	7.1	98	22	9.4	62	2 Nor.	G., Pk., Sh.
				Stewart.....	8.6	99	30	9.2	63	1 C.W.	—
No significant grain yield difference between varieties.											
TONY A. BARTH, TAKO											
2D.....	12	5	A	Thatcher.....	13.1	—	—	—	62	1 Nor.	—
				Apex.....	12.9	—	—	—	63	1 Nor.	—
				Rescue.....	12.2	—	—	—	63	1 Nor.	—
				Stewart.....	13.7	—	—	—	64	1 C.W.	S.G.
No significant grain yield difference between varieties.											
RICHARD W. RYAN, FREEMONT											
3E.....	12	8	A	Thatcher.....	18.2	88	26	10.0	64	2 Nor.	G., I.
				Apex.....	18.4	89	25	10.0	64	1 Nor.	—
				Redman.....	14.6	87	27	10.0	62	2 Nor.	G., I.
				Saunders.....	14.4	87	25	10.0	63	2 Nor.	G., I.
Necessary difference—1.7 bushels.											
CHARLIE M. G. GALL, LILYDALE											
3E.....	12	8	B	Thatcher.....	13.5	83	24	9.8	63	2 Nor.	G., I.
				Apex.....	15.1	83	22	9.4	62	2 Nor.	G., I.
				Redman.....	9.1	82	23	9.4	62	2 Nor.	G., I.
				Saunders.....	6.4	82	22	9.4	61	3 Nor.	G., I.
Necessary difference—3.4 bushels.											
ROBERT R. KNOWLES, ROCKHAVEN											
2D.....	12	9	A	Thatcher.....	16.5	104	25	—	62	2 Nor.	G., I.
				Apex.....	14.8	103	24	—	62	2 Nor.	G., I.
				Rescue.....	12.4	101	25	—	61	2 Nor.	G., I.
				Stewart.....	15.7	105	26	—	64	2 C.W.	G., I.
No significant grain yield difference between varieties.											
PAULINE V. EBERHARDT, BATTLEFORD											
3G.....	12	10	A	Thatcher.....	16.6	—	—	—	63	1 Nor.	—
				Apex.....	15.4	—	—	—	64	2 Nor.	G., I.
				Redman.....	12.5	—	—	—	62	2 Nor.	G., I.
				Saunders.....	12.7	—	—	—	62	2 Nor.	G., I.
Necessary difference—1.8 bushels.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
2D.....	12	6	A	Norbert Leibel, Denzil.							
2D.....	12	7	A	J. Jack McLean, Unity.							

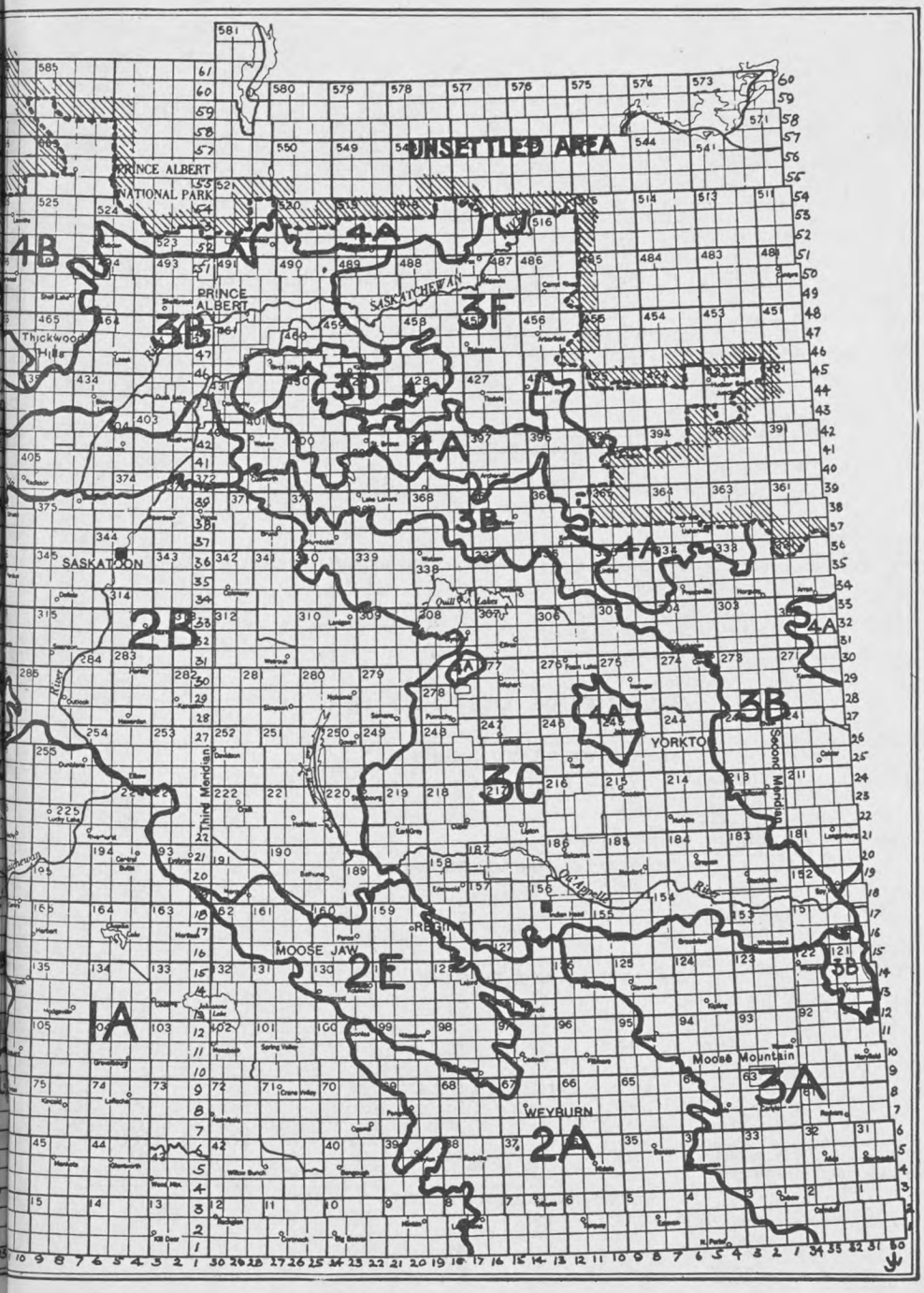
WHEAT POOL DISTRICT 13

JOSEPH H. A. EARIS, BAY TRAIL											
3C.....	13	1	A	Thatcher.....	20.0	99	30	9.2	63	1 Nor.	—
				Apex.....	18.3	102	32	7.4	62	1 Nor.	—
				Redman.....	13.8	100	29	8.2	61	1 Nor.	—
				Saunders.....	15.9	100	29	8.2	61	1 Nor.	—
No significant grain yield difference between varieties.											
ALBERT G. WARKENTIN, DUNDURN											
2B.....	13	3	A	Thatcher.....	14.1	—	23	8.0	63	1 Nor.	—
				Apex.....	13.5	—	24	8.6	63	1 Nor.	—
				Rescue.....	13.5	—	23	9.4	64	1 Nor.	—
				Stewart.....	13.0	—	29	9.4	66	1 C.W.	—
No significant grain yield difference between varieties.											


ZONE 1A
2A
2B
ZONE 2C
2D
2E AND 2F
ZONE 3A
3B
3C AND 3D
ZONE 3E
4A
3G AND 4B
THATCHER
APEX
RESCUE
STEWART
REDMAN
SAUNDERS


3H
3E
3G
2D
1A
2F
1B
1C
Fourth Meridian
Cypress Hills
EXPERIMENT STATION

Cereal Variety Zones of Saskatchewan



Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bus. per acre	Days Seed-ing to Ripen-ing	Plant Height in Inches	Straw Strength	Pounds per Meas-ured Bushel	Com-mercial Grades	Grading Remarks
				GERALD LE PAGE, VONDA							
2B.....	13	8	A	Thatcher.....	24.2	95	32	10.0	63	1 Nor.	—
				Apex.....	25.6	95	32	10.0	64	1 Nor.	—
				Rescue.....	22.6	95	31	8.0	63	1 Nor.	—
				Stewart.....	27.5	103	38	10.0	66	1 C.W.	—
No significant grain yield difference between varieties.											
				HUBERT SCHWARK, CUDWORTH							
3C.....	13	9	A	Thatcher.....	33.9	—	—	—	63	2 Nor.	G., I.
				Apex.....	31.1	—	—	—	61	3 Nor.	G., I.
				Redman.....	24.2	—	—	—	61	4 Nor.	G., I., Pk.,Sh.
				Saunders.....	23.7	—	—	—	62	2 Nor.	G., I.
Necessary difference—6.0 bushels.											
				JOHNIE B. BALON, REYNAUD							
3B.....	13	10	A	Thatcher.....	20.9	114	27	9.0	62	1 Nor.	—
				Apex.....	17.9	118	26	10.0	63	2 Nor.	V.G.
				Redman.....	17.5	114	28	9.6	63	1 Nor.	—
				Saunders.....	15.8	117	26	9.0	63	1 Nor.	—
Necessary difference—1.1 bushels.											
				NORBERT J. MAMER, LAKE LENORE							
3B.....	13	11	A	Thatcher.....	25.9	108	24	9.0	62	1 Nor.	—
				Apex.....	26.1	109	26	8.8	63	1 Nor.	—
				Redman.....	23.4	104	23	9.4	62	1 Nor.	—
				Saunders.....	22.6	107	22	8.8	62	1 Nor.	—
Necessary difference—1.5 bushels.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
2B.....	13	2	A	Stuart V. Rowan, Young.							
2B.....	13	3	B	Lorne Freeden, Dundurn.							
2B.....	13	4	A	Carl H. Dedick, Bradwell.							
2B.....	13	5	A	Robert S. Svoboda, Box 1025, Saskatoon.							

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				ALFRED WEINHANDL, LINTLAW							
3B.....	14	1	A	Thatcher.....	30.7	79	21	8.8	62	3 Nor.	G., Pk., Sh.
				Apex.....	29.8	84	19	7.8	62	2 Nor.	G., I.
				Redman.....	31.5	79	19	8.8	62	3 Nor.	G., I., Pk., Sh.
				Saunders.....	27.8	79	20	8.4	62	3 Nor.	G., Pk., Sh.
No significant grain yield difference between varieties.											
				ROBERT C. OBERG, HENDON							
3B.....	14	2	A	Thatcher.....	26.5	96	33	8.0	62	2 Nor.	G., I.
				Apex.....	21.1	98	32	7.4	63	2 Nor.	G., I.
				Redman.....	20.0	97	31	7.0	61	2 Nor.	G., I.
				Saunders.....	21.3	97	30	7.8	61	3 Nor.	G., I.
Necessary difference—3.7 bushels.											
				BETTY C. EVANS, LIGHTWOODS							
4A.....	14	4	A	Thatcher.....	17.6	90	28	9.6	62	2 Nor.	G., I.
				Apex.....	20.7	90	30	9.8	63	2 Nor.	G., I.
				Redman.....	15.1	91	28	9.2	62	2 Nor.	G., I.
				Saunders.....	12.5	90	27	8.6	61	2 Nor.	G., I.
Necessary difference—2.1 bushels.											
				MAC P. CHIMKO, CHELAN							
4A.....	14	6	A	Thatcher.....	51.4	91	30	10 0	62	2 Nor.	G., I.
				Apex.....	53.3	91	32	10.0	61	2 Nor.	G., I.
				Redman.....	36.7	92	30	10.0	61	2 Nor.	G., Pk., Sh.
				Saunders.....	29.5	93	29	8.0	61	2 Nor.	G., I.
Necessary difference—5.0 bushels.											
				JOHN D. BEECHING, STEEN							
4A.....	14	7	A	Thatcher.....	35.2	100	36	9.0	63	1 Nor.	—
				Apex.....	40.1	99	36	9.0	64	1 Nor.	—
				Redman.....	30.8	101	35	9.0	64	1 Nor.	—
				Saunders.....	26.5	99	32	8.0	63	1 Nor.	—
Necessary difference—2.6 bushels.											

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bus. per acre	Days Seed-ing to Ripen-ing	Plant Height in Inches	Straw Strength	Pounds per Meas-ured Bushel	Com-mercial Grades	Grading Remarks
ALLAN A. MORRISON, ETHELTON											
3D.....	14	8	A	Thatcher.....	14.8	106	22	10.0	63	1 Nor.	—
				Apex.....	13.2	106	25	10.0	64	1 Nor.	—
				Redman.....	11.6	104	24	10.0	63	1 Nor.	—
				Saunders.....	12.5	103	25	10.0	62	1 Nor.	—
No significant grain yield difference between varieties.											
JOSEPH L. FOSTER, KINISTINO											
3B.....	14	9	A	Thatcher.....	21.4	—	23	10.0	62	3 Nor.	G., I.
				Apex.....	21.6	—	23	10.0	63	2 Nor.	G., I.
				Redman.....	17.7	—	23	9.0	62	3 Nor.	G., I.
				Saunders.....	18.0	—	22	10.0	62	2 Nor.	G., I.
Necessary difference—1.1 bushels.											
J. LOUIS J. RIOU, ARBORFIELD											
3F.....	14	10	A	Thatcher.....	9.7	87	24	9.4	63	2 Nor.	G., I.
				Apex.....	6.0	89	26	8.8	64	2 Nor.	G., I.
				Redman.....	6.1	87	24	9.2	62	2 Nor.	G., I.
				Saunders.....	6.0	87	23	9.6	62	2 Nor.	G., I.
Badly damaged by shattering.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
3B.....	14	5	A	Norman J. Bernier, Perigord.							
3F.....	14	11	A	Harold E. Wall, Carrot River.							

WHEAT POOL DISTRICT 15

EINAR H. RINHOLM, HAGEN											
3D.....	15	1	A	Thatcher.....	17.6	96	36	9.0	62	2 Nor.	G., I.
				Apex.....	14.6	96	36	10.0	62	2 Nor.	G., I.
				Redman.....	10.1	102	32	8.0	59	3 Nor.	G., I.
				Saunders.....	9.4	100	34	8.0	60	2 Nor.	G., I.
Damaged by livestock.											
SAM SOLODUCHA, STEEP CREEK											
3B.....	15	3	A	Thatcher.....	22.9	96	30	9.8	64	1 Nor.	—
				Apex.....	15.3	97	29	9.8	64	1 Nor.	—
				Redman.....	17.3	96	29	9.8	62	2 Nor.	G., I.
				Saunders.....	15.4	96	28	9.6	62	2 Nor.	G.
Necessary difference—4.7 bushels.											
ROBERT K. GOSSEN, HEPBURN											
3G.....	15	4	A	Thatcher.....	16.6	81	24	10.0	58	3 Nor.	G., I.
				Apex.....	17.3	82	24	9.8	59	2 Nor.	—
				Redman.....	16.1	82	24	10.0	58	3 Nor.	G., I.
				Saunders.....	17.4	82	24	9.8	58	3 Nor.	G., I.
No significant grain yield difference between varieties.											
CALVIN L. STENE, STURGEON VALLEY											
3B.....	15	8	A	Thatcher.....	59.1	87	36	8.0	63	1 Nor.	—
				Apex.....	53.8	89	37	7.0	64	3 Nor.	G., I.
				Redman.....	48.8	87	35	9.2	63	3 Nor.	G., I.
				Saunders.....	46.6	87	31	8.6	62	2 Nor.	G., I.
Necessary difefrence—3.1 bushels.											
ANNIE SENGA, MEATH PARK											
3B.....	15	10	A	Thatcher.....	52.3	94	31	10.0	64	2 Nor.	G.
				Apex.....	46.9	95	31	10.0	63	2 Nor.	G., I.
				Redman.....	44.1	93	33	10.0	63	3 Nor.	G., I.
				Saunders.....	40.0	94	31	10.0	63	2 Nor.	G., I.
Necessary difference—3.8 bushels.											
GERVIN L. SIMONS, SMEATON											
3B.....	15	10	B	Thatcher.....	20.0	91	—	8.4	62	2 Nor.	G., I.
				Apex.....	16.1	91	—	8.4	63	2 Nor.	G., I.
				Redman.....	12.2	93	—	8.4	62	2 Nor.	G., I.
				Saunders.....	16.2	93	—	8.2	62	3 Nor.	G., I.
Samples bulked.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
3B.....	15	5	A	J. Oscar Davies, Kilwinning.							
4B.....	15	7	A	Maurice Cyr, Debden.							

WHEAT POOL DISTRICT 16

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bus. per acre	Days Seed-ing to Ripen-ing	Plant Height in Inches	Straw Strength	Pounds per Meas-ured Bushel	Com-mercial Grades	Grading Remarks
DELBERT W. BRONSCH, RADISSON											
3G.....	16	1	A	Thatcher.....	10.3	—	12	9.0	61	1 Nor.	S.Bl.
				Apex.....	9.8	—	12	9.4	62	2 Nor.	G., I.
				Redman.....	10.0	—	12	9.2	59	3 Nor.	G., I.
				Saunders.....	7.9	—	12	9.2	61	2 Nor.	G., I.
No significant grain yield difference between varieties.											
HARRY W. KUFFERT, RABBIT LAKE											
4B.....	16	3	B	Thatcher.....	26.1	—	—	—	58	No. 6	B.F.
				Apex.....	21.9	—	—	—	57	No. 6	B.F.
				Redman.....	20.7	—	—	—	57	No. 6	F., G.
				Saunders.....	17.7	—	—	—	57	No. 6	F., G.
Necessary difference—4.5 bushels.											
NELLIE M. JANUS, WASECA											
3E.....	16	5	A	Thatcher.....	3.9	105	13	7.0	61	1 Nor.	—
				Apex.....	3.4	107	13	7.2	61	1 Nor.	—
				Redman.....	4.2	107	12	7.8	60	2 Nor.	G., I.
				Saunders.....	3.8	106	14	6.8	60	1 Nor.	—
No significant grain yield difference between varieties.											
JACK B. TOBIN, PAYNTON											
3G.....	16	5	B	Thatcher.....	11.3	—	—	10.0	63	1 Nor.	—
				Apex.....	12.1	—	—	10.0	64	1 Nor.	—
				Redman.....	10.2	—	—	10.0	63	1 Nor.	—
				Saunders.....	10.7	—	—	10.0	63	1 Nor.	—
Necessary difference—.9 bushel.											
M. G. GLORIA RICHARDSON, LASHBURN											
3E.....	16	6	A	Thatcher.....	17.2	—	—	—	61	1 Nor.	—
				Apex.....	18.5	—	—	—	62	1 Nor.	—
				Redman.....	15.5	—	—	—	61	1 Nor.	—
				Saunders.....	18.8	—	—	—	60	1 Nor.	—
No significant grain yield difference between varieties.											
LOCKSLEY SIMPSON, PARADISE HILL											
4B.....	16	7	A	Thatcher.....	4.3	—	—	—	61	2 Nor.	G., I.
				Apex.....	3.7	—	—	—	61	2 Nor.	G., I.
				Redman.....	3.7	—	—	—	61	2 Nor.	G., I.
				Saunders.....	3.4	—	—	—	59	2 Nor.	—
Damaged.											
RODERICK M. MACFARLANE, TURTLEFORD											
3E.....	16	8	A	Thatcher.....	14.8	80	15	—	64	1 Nor.	—
				Apex.....	15.6	80	14	—	64	1 Nor.	—
				Redman.....	13.5	80	14	—	63	2 Nor.	G., I.
				Saunders.....	12.1	80	14	—	62	1 Nor.	—
Necessary difference—1.8 bushels.											
EUGENE HEESING, GOODSOIL											
4B.....	16	11	A	Thatcher.....	25.7	—	33	9.0	63	2 Nor.	G., Pk., Sh., P
				Apex.....	29.4	—	33	10.0	63	3 Nor.	I., P.
				Redman.....	23.3	—	33	10.0	63	3 Nor.	I., P.
				Saunders.....	21.1	—	31	9.0	62	2 Nor.	I., P.
Necessary difference—2.5 bushels.											

Tests discarded on account of damage by drought, pests, hail, or other causes.

3B.....	16	2	A	Thomas K. Simmonds, R.R. 1, Speers.
3G.....	16	3	A	John H. McKitrick, North Battleford.
4B.....	16	9	A	Taras Hawryliw, Glaslyn.
3G.....	16	10	A	Charles A. Comerford, Jr., Mullingar.

OAT TESTS

Oat tests were conducted during 1948 throughout the eastern, north-eastern and northern districts of the Province comprised of Cereal Variety Zones 3A, 3B, 3C, 3D, 3E, 3F, 3G, 4A and 4B. (See Cereal Variety Zone map on page 33.) For purposes of analysis the entire area was divided into the following three sections:

1. Cereal Variety Zones 3A, 3B, and 3C.
2. Cereal Variety Zones 3E, 3F, and 4A.
3. Cereal Variety Zones 3G and 4B.

None of the tests conducted in Zone 3D were successfully completed.

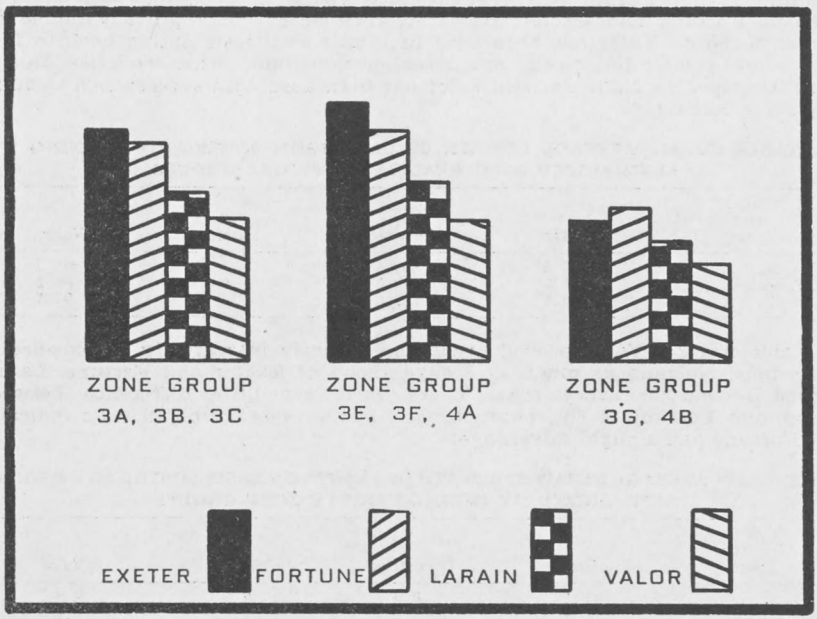
DESCRIPTION OF VARIETIES

Exeter was originated in 1929 at the Dominion Laboratory of Cereal Breeding, Winnipeg, from the cross Victory X Rusota. Exeter is a late maturing variety, resistant to most races of stem rust but susceptible to some, and moderately susceptible to leaf rust and smut.

Fortune is a new variety developed at the University of Saskatchewan from the cross Victory X V.R.M.V. The latter strain was originated by the United States Department of Agriculture, from the double cross (Victoria X Richland) X (Markton X Victory). Fortune is resistant to smut and has stem rust resistance similar to that of Exeter. Fortune was tested in 1947 under the designation V.C. 30.

Larain was developed from the cross Gold Rain X Alaska by the Dominion Experimental Farm System. It is a very early maturing variety with plump kernels and strong straw. Larain is susceptible to stem and crown rust. It is very useful in areas where early maturity is of primary importance.

Valor originated from a cross between Banner and the Australian variety, Sunrise, at the University of Saskatchewan in 1927. Valor is a very early maturing, plump seeded variety with strong mid-short straw. It is resistant to smuts but moderately susceptible to rusts. Because of its earliness it is particularly useful as a cleaning crop for wild oats and for the avoidance of early fall frosts.



Histograms Showing Oat Yields by Cereal Variety Zone Groups (see centre page map).

GRAIN YIELD

Table No. 22—**Exeter** and **Fortune** have again shown exceptional yielding ability in the Wheat Pool tests conducted during 1948. Neither variety showed any distinct superiority over the other, but both outyielded Larain and Valor consistently. Fortune exceeded both of these varieties significantly in every zone. Exeter outyielded Larain and Valor in all cases, but in Zone Group 3G and 4B its yield superiority over Larain was not of a significant nature. Of the two lower yielding varieties, **Larain** exceeded **Valor** by more than the necessary difference in each zone group except 3G and 4B. Although inferior in yield to Exeter and Fortune on the basis of these results, Larain and Valor may prove highly valuable in special circumstances due to their early maturity.

TABLE NO. 22—AVERAGE YIELDS IN BUSHELS PER ACRE SUMMARIZED BY CEREAL VARIETY ZONE GROUPS

Cereal Variety Zones	No. of Satisfactory Tests	Exeter	Fortune	Larain	Valor	Necessary Difference in Bushels
3A, 3B, 3C	15	71.2	67.1	52.4	44.1	4.9
3E, 3F, 4A	7	80.2	71.2	55.2	43.4	10.3
3G and 4B	5	43.1	47.5	37.4	30.7	8.4

Past Performance and Official Recommendations

Fortune was tested during the 1947 season under the designation VC-30. It was not licensed at that time but its excellent performance in tests carried out during the year, together with the promising showing it had given earlier, resulted in Fortune being licensed in 1948 and officially recommended for use throughout practically all of Saskatchewan. **Exeter** has been included in Wheat Pool tests dating back to 1942. Its consistently high yields, especially in areas where moisture conditions were good, resulted in official recommendations for the use of this variety in the eastern and north-eastern zones of the Province. Wheat Pool tests carried out during the past two years have shown Fortune and Exeter to be approximately equal in yielding capacity and bushel weight. Fortune has had a slight advantage over Exeter in strength of straw and earliness. **Larain** was tested for the first time in 1948. Although a new variety must be tested for several years before definite conclusions can be drawn, it is unlikely that Larain will ever produce yields in Saskatchewan equal to those of Fortune and Exeter. However, this variety may prove valuable for special purposes. **Valor** has been used in Wheat Pool tests dating back to 1941. It is a low yielder but ripens much earlier than most other varieties. Due to this early ripening characteristic Valor has been used with success as a cleaning crop for wild oats.

TABLE NO. 23.—AVERAGE NUMBER OF DAYS FROM SOWING TO RIPENING SUMMARIZED BY CEREAL VARIETY ZONE GROUPS

Cereal Variety Zones	Exeter	Fortune	Larain	Valor
3A, 3B, 3C	93.6	91.8	87 2	85.2
3E, 3F, 4A	92.0	92.2	84.6	84.2
3G and 4B	100.5	101.0	98.5	94.5

Table No. 23—**Valor** proved exceptionally early in maturity. It excelled in every zone, ripening as much as 8 days ahead of Exeter and Fortune. **Larain** ripened second in every zone. There was very little difference between **Exeter** and **Fortune** in this characteristic but an average of all tests indicates that Fortune had a slight advantage.

TABLE No. 24—AVERAGE STRAW STRENGTH OF PLANTS ON BASIS 10 (STRONG), 0 (WEAK) SUMMARIZED BY CEREAL VARIETY ZONE GROUPS

Cereal Variety Zones	Exeter	Fortune	Larain	Valor
3A, 3B, 3C	8.5	8.9	8.5	8.1
3E, 3F, 4A	8.7	9.2	9.4	9.6
3G and 4B	9.4	9.6	9.7	9.8

Table No. 24—Generally **Valor** was superior in straw strength followed by **Larain, Fortune** and **Exeter** in that order. In Zone Group 3A, 3B, and 3C, however, Valor proved inferior. Fortune had stronger straw than Exeter in every zone.

TABLE NO. 25.—AVERAGE WEIGHT PER MEASURED BUSHEL SUMMARIZED BY CEREAL VARIETY ZONE GROUPS

Cereal Variety Zones	Exeter	Fortune	Larain	Valor
3A, 3B, 3C	36.9	37.1	39.3	36.2
3E, 3F, 4A	37.4	37.0	39.2	36.5
3G and 4B	35.3	35.2	37.3	35.2

Table No. 25—**Larain** excelled in weight per measured bushel. **Exeter** ranked second on an average basis and **Fortune** followed closely in third place. **Valor** was fourth in bushel weight in every zone group except 3G and 4B where it tied with Fortune for third place.

TABLE NO. 26.—COMMERCIAL GRADES IN PERCENTAGE

Variety	2 C.W.	Ex. 3 C.W.	3 C.W.	1 Fd.	2 Fd.	3 Fd.
	%	%	%	%	%	%
Exeter	—	9.7	51.6	25.8	9.7	3.2
Fortune	3.2	6.4	54.9	19.4	12.9	3.2
Larain	6.4	41.9	38.8	3.2	9.7	—
Valor	6.4	—	67.7	3.2	22.7	—

Table No. 26—This table gives the percentage of samples of each variety placed in the various grades. **Larain** showed definite superiority in grading ability. Only minor differences appeared between the average grades of the other varieties.

SUMMARIZATION ACCORDING TO CEREAL VARIETY ZONES

TABLE NO. 27.—SUMMARIZED RESULTS FOR ZONE GROUP 3A, 3B, and 3C

(15 satisfactory tests)

	Exeter	Fortune	Larain	Valor
Yield in bushels per acre	71.2	67.1	52.4	44.1
Days from seeding to ripening	93.6	91.8	87.2	85.2
Height of plants in inches	37.3	39.2	35.5	33.0
Straw strength	8.5	8.9	8.5	8.1
Bushel weight in pounds	36.9	37.1	39.3	36.2
Commercial grades in percentage: 2 C.W.	—	—	—	5.9
3 C.W.	35.2	52.9	35.3	64.7
Ex. 3 C.W.	11.8	11.8	52.9	—
1 Fd.	41.2	23.5	5.9	5.9
2 Fd.	11.8	11.8	5.9	23.5

Necessary difference—4.9 bushels.

Table No. 27—**Exeter** was high in yield, exceeding Larain and Valor significantly. It gave a generally good performance but ripened slightly late. **Fortune** placed second in yield. It was not significantly lower yielding than Exeter and its slight advantage over this variety in most other characteristics makes Fortune an excellent choice for use in the zones of this group. **Larain** was third in yield but excelled in bushel weight and ripened comparatively early. **Valor** was significantly outyielded by all other varieties but its early maturity is a valuable characteristic.

TABLE NO. 28.—SUMMARIZED RESULTS FOR ZONE GROUP 3E, 3F AND 4A

(7 satisfactory tests)

	Exeter	Fortune	Larain	Valor
Yield in bushels per acre	80.2	71.2	55.2	43.4
Days from seeding to ripening	92.0	92.2	84.6	84.2
Height of plants in inches	35.8	37.0	34.0	31.2
Straw strength	8.7	9.2	9.4	9.6
Bushel weight in pounds	37.4	37.0	39.2	36.5
Commercial grades in percentage: 2 C.W.	—	12.5	12.5	—
3 C.W.	62.5	62.5	37.5	87.5
Ex. 3 C.W.	12.5	—	37.5	—
1 Fd.	12.5	12.5	—	—
2 Fd.	—	—	12.5	12.5
3 Fd.	12.5	12.5	—	—

Necessary difference—10.3 bushels.

Table No. 28—**Exeter** again excelled in yielding ability, outyielding Larain and Valor by more than the necessary difference. Compared with Fortune, Exeter was slightly earlier and slightly heavier in bushel weight. Fortune, however, had the advantage in straw strength, commercial grades and height. As the difference between the yields of these two varieties is not significant there appears to be little to choose between the performances of Exeter and Fortune. **Larain** was third in yield, exceeding Valor by more than the necessary difference. It was superior in bushel weight and proved considerably earlier than Exeter or Fortune. **Valor** was first to ripen and proved slightly superior to the other varieties in strength of straw. It is doubtful, however, if these favorable characterstics compensate for its inferiority in yield, bushel weight and height.

TABLE NO. 29.—SUMMARIZED RESULTS FOR ZONE GROUP 3G and 4B

(5 satisfactory tests)

	Exeter	Fortune	Larain	Valor
Yield in bushels per acre	43.1	47.5	37.4	30.7
Days from seeding to ripening	100.5	101.0	98.5	94.5
Height of plants in inches	26.3	27.3	23.3	26.7
Straw strength	9.4	9.6	9.7	9.8
Bushel weight in pounds	35.3	35.2	37.3	35.2
Commercial grades in percentage: 2 C.W.	—	—	16.7	16.7
3 C.W.	83.3	50.0	50.0	50.0
Ex. 3 C.W.	—	—	16.7	—
1 Fd.	—	16.7	—	—
2 Fd.	16.7	33.3	16.6	33.3

Necessary difference—8.4 bushels.

Table No. 29—**Fortune** was high in yield, exceeding Larain and Valor significantly. It was taller than Exeter but was slightly inferior in commercial grades and ripened one-half day later. The difference in yield between Fortune and Exeter was not significant. **Larain** ranked third in yield but failed to exceed Valor by a significant margin. Larain had better bushel weight than the other varieties but was short in straw and ripened later than Valor. **Valor** proved inferior in yield to Exeter and Fortune but its early maturity and strong straw are favorable characteristics.

TABLE No. 30

Individual Summarized Results of All Tests—Oats

WHEAT POOL DISTRICT 1

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bus. per acre	Days Seed-ing to Ripen-ing	Plant Height in Inches	Straw Strength	Pounds per Meas-ured Bushel	Com-mercial Grades	Grading Remarks
				RALPH E. DEAN, FERTILE							
3A.....	1	2	B	Exeter.....	102.9	95	47	7.0	39	3 C.W.	G.
				Fortune.....	104.3	92	53	8.3	39	3 C.W.	G.
				Larain.....	90.3	84	50	5.8	40	Ex. 3 C.W.	G.
				Valor.....	74.7	85	44	7.8	37	3 C.W.	G.
Necessary Difference—9.1 Bushels.											

WHEAT POOL DISTRICT 6

				JAMES BEATTY JR., ADAMS							
3C.....	6	7	B	Exeter.....	52.5	—	24	10.0	37	3 C.W.	G.
				Fortune.....	52.7	—	25	10.0	39	3 C.W.	G.
				Larain.....	31.3	—	24	10.0	41	Ex. 3 C.W.	G.
				Valor.....	30.6	—	21	9.8	39	3 C.W.	G.
Necessary difference—10.1 bushels.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
3C.....	6	10	D	Gordon W. Wagner, Craven.							

WHEAT POOL DISTRICT 7

				ALFRED W. SKULMOSKI, FAIRLIGHT							
3A.....	7	1	B	Exeter.....	57.5	—	—	—	38	3 C.W.	G.
				Fortune.....	54.2	—	—	—	38	3 C.W.	G.
				Larain.....	55.6	—	—	—	40	Ex. 3 C.W.	G.
				Valor.....	46.3	—	—	—	36	2 C.W.	—
Necessary difference—2.6 bushels.											
				C. ROY CUTHILL, FLEMING							
3A.....	7	2	B	Exeter.....	71.3	81	42	7.0	35	1 Feed	W.S.
				Fortune.....	58.3	81	42	7.0	35	3 C.W.	G.
				Larain.....	66.4	75	37	9.0	38	3 C.W.	G.
				Valor.....	53.6	75	38	9.0	34	3 C.W.	—
Necessary difference—6.7 bushels.											
				BERNARD H. HARTNELL, KIPLING							
3A.....	7	4	B	Exeter.....	86.7	96	40	7.0	40	Ex. 3 C.W.	G.
				Fortune.....	81.6	91	43	9.5	39	3 C.W.	G.
				Larain.....	52.8	83	38	9.3	40	Ex. 3 C.W.	G.
				Valor.....	55.9	77	35	10.0	39	3 C.W.	G., W.
Necessary difference—12.3 bushels.											
				GRANT W. PLEWES, SPY HILL							
3B.....	7	9	B	Exeter.....	82.1	88	43	10.0	36	1 Feed	W.S.
				Fortune.....	60.9	88	43	9.5	38	1 Feed	G., W.
				Larain.....	53.7	82	41	9.5	39	1 Feed	W.S.
				Valor.....	34.2	79	38	9.0	35	2 Feed	W.S.
Necessary difference—8.0 bushels.											
				JOHN E. CROSWELL, STOCKHOLM							
3C.....	7	10	A	Exeter.....	52.8	85	37	—	39	3 C.W.	G.
				Fortune.....	43.9	85	38	—	38	3 C.W.	G.
				Larain.....	—	73	40	—	—	—	—
				Valor.....	—	—	—	—	—	—	—
Samples incomplete. Damaged by birds and gophers.											
				EDDIE KONOWAL, LEMBERG							
3C.....	7	11	B	Exeter.....	77.5	—	—	—	39	3 C.W.	G.
				Fortune.....	74.4	—	—	—	40	Ex. 3 C.W.	G.
				Larain.....	49.8	—	—	—	40	Ex. 3 C.W.	G.
				Valor.....	36.8	—	—	—	38	3 C.W.	G.
Necessary difference—6.7 bushels.											

WHEAT POOL DISTRICT 8

Cereal Variety Zone	Dist.	Sub. Dist.	Test Designation	Varieties	Yield Bus. per acre	Days Seeding to Ripening	Plant Height in Inches	Straw Strength	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
				RONALD V. DIXON, KAMSACK							
3B.....	8	5	B	Exeter.....	84.1	97	45	5.8	35	1 Feed	—
				Fortune.....	85.5	96	47	6.8	37	3 C.W.	G.
				Larain.....	63.4	89	42	6.5	39	3 C.W.	G.
				Valor.....	54.7	86	39	6.3	33	2 Feed	—
Necessary difference—11.1 bushels.											
				STEFFIE KOTYK, RAMA							
3C.....	8	7	B	Exeter.....	105.3	—	37	10.0	37	1 Feed	V.G.
				Fortune.....	93.9	—	41	10.0	35	1 Feed	V.G.
				Larain.....	64.3	—	41	10.0	37	3 C.W.	G.
				Valor.....	54.0	—	38	4.0	32	2 Feed	—
Necessary difference—17.3 bushels.											
				HARRY J. YAREMCHUCK, HINCHLIFFE							
3B.....	8	8	A	Exeter.....	15.9	—	—	—	34	3 C.W.	G.
				Fortune.....	11.3	—	—	—	32	2 Feed	—
				Larain.....	16.4	—	—	—	33	2 Feed	—
				Valor.....	15.2	—	—	—	32	2 Feed	—
Damaged by livestock.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
3C.....	8	4	B	Wilfred Fink, Yorkton.							
3B.....	8	6	B	Glen A. Buck, Preeceville.							

WHEAT POOL DISTRICT 9

Cereal Variety Zone	Dist.	Sub. Dist.	Test Designation	Varieties	Yield Bus. per acre	Days Seeding to Ripening	Plant Height in Inches	Straw Strength	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
				KENNETH J. YANO, LEROSS							
3C.....	9	3	B	Exeter.....	30 4	100	24	9.0	40	Ex. 3 C.W.	G.
				Fortune.....	20.5	98	24	8.5	40	Ex. 3 C.W.	G.
				Larain.....	13.2	99	23	8.5	42	Ex. 3 C.W.	G.
				Valor.....	17.4	99	25	8.8	39	1 Feed	V.G.
No significant grain yield difference between varieties.											
				TONY PANASIUK, FISHING LAKE							
3C.....	9	10	B	Exeter.....	111.5	94	43	8.3	38	1 Feed	G.
				Fortune.....	102.9	92	46	8.8	38	3 C.W.	G.
				Larain.....	40.5	91	42	7.8	41	Ex. 3 C.W.	G.
				Valor.....	28.4	92	39	8.8	38	3 C.W.	G.
Larain and Valor damaged by birds.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
3C.....	9	1	C	Edward Golemba, Ituna.							

WHEAT POOL DISTRICT 12

Cereal Variety Zone	Dist.	Sub. Dist.	Test Designation	Varieties	Yield Bus. per acre	Days Seeding to Ripening	Plant Height in Inches	Straw Strength	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
				STANLEY G. CHRISTENSEN, NEILBURG							
3E.....	12	8	C	Exeter.....	46.0	80	26	9.3	37	1 Feed	G., W.S.
				Fortune.....	35.6	83	24	8.8	35	1 Feed	G., W.S.
				Larain.....	30.3	77	26	10.0	41	Ex. 3 C.W.	W., G.
				Valor.....	24.6	73	22	10.0	38	3 C.W.	G.
Necessary difference—7.1 bushels.											
				WILLIAM E. NELSON, PRONGUA							
3G.....	12	10	B	Exeter.....	42.6	—	—	—	38	3 C.W.	G.
				Fortune.....	55.7	—	—	—	37	1 Feed	G.
				Larain.....	20.2	—	—	—	32	2 Feed	—
				Valor.....	18.9	—	—	—	33	2 Feed	—
Necessary difference—9.7 bushels.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
3E.....	12	8	D	Robert B. Wilson, Carruthers.							
3E.....	12	9	B	Robert L. Ramsay, Cut Knife.							

WHEAT POOL DISTRICT 13

Cereal Variety Zone	Dist.	Sub. Dist.	Test Designation	Varieties	Yield Bus. per acre	Days Seeding to Ripening	Plant Height in Inches	Straw Strength	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
				KALMAN MEGYESI, BREMEN							
3C.....	13	9	B	Exeter.....	55.6	82	27	7.8	39	3 C.W.	G.
				Fortune.....	55.9	83	29	9.8	38	3 C.W.	G.
				Larain.....	43.8	77	28	8.5	42	Ex. 3 C.W.	G.
				Valor.....	30.4	74	26	7.8	36	3 C.W.	G.
Necessary difference—5.0 bushels.											

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bus. per acre	Days Seed-ing to Ripen-ing	Plant Height in Inches	Straw Strength	Pounds per Meas-ured Bushel	Com-mercial Grades	Grading Remarks
EUGENE F. BOEHM, LAKE LENORE											
3B.....	13	11	B	Exeter.....	59.7	102	30	10.0	38	1 Feed	G., W.S.
				Fortune.....	54.2	102	30	10.0	39	1 Feed	G., W.S.
				Larain.....	34.9	97	20	10.0	42	Ex. 3 C.W.	G.
				Valor.....	40.4	97	18	10.0	39	3 C.W.	G.
Necessary difference—4.6 bushels.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
3B.....	13	10	B	Ernest J. Schneberger, Reynaud.							

WHEAT POOL DISTRICT 14

KEITH A. PARKER, NAICAM											
3B.....	14	3	B	Exeter.....	69.6	94	40	8.0	33	2 Feed	—
				Fortune.....	73.0	89	42	8.0	36	3 C.W.	G.
				Larain.....	54.5	85	36	5.0	39	3 C.W.	G.
				Valor.....	50.9	78	32	4.0	38	3 C.W.	G.
Necessary difference—8.9 bushels.											
LAURENCE M. SLIND, ARCHERWILL											
4A.....	14	4	B	Exeter.....	115.6	94	40	8.0	35	3 Feed	St., M.
				Fortune.....	95.4	94	44	9.0	36	3 Feed	M., W.
				Larain.....	81.4	92	40	8.8	38	2 Feed	M., W.S.
				Valor.....	59.5	91	36	9.8	35	2 Feed	W.S.
Necessary difference—13.0 bushels.											
RONALD CHOQUETTE, PERIGORD											
4A.....	14	5	B	Exeter.....	25.7	—	—	—	39	3 C.W.	G.
				Fortune.....	31.1	—	—	—	37	3 C.W.	G.
				Larain.....	17.9	—	—	—	39	3 C.W.	G.
				Valor.....	14.5	—	—	—	38	3 C.W.	G.
Samples incomplete.											
JOHNNY SCHNEIDER, CHELAN											
4A.....	14	6	B	Exeter.....	64.6	—	—	—	36	3 C.W.	G.
				Fortune.....	77.6	—	—	—	37	2 C.W.	—
				Larain.....	49.9	—	—	—	39	2 C.W.	W.S.
				Valor.....	50.8	—	—	—	36	3 C.W.	W.S.
Necessary difference—7.1 bushels.											
CLIFFORD J. CASKEY, ARMLEY											
3F.....	14	10	B	Exeter.....	49.6	104	36	7.3	35	3 C.W.	G.
				Fortune.....	55.1	99	39	8.3	37	3 C.W.	G.
				Larain.....	37.9	91	34	8.5	37	3 C.W.	G.
				Valor.....	29.1	91	32	8.5	34	3 C.W.	G.
No significant grain yield difference between varieties.											
MARGARET A. PERKINS, CODETTE											
3F.....	14	11	B	Exeter.....	92.3	88	41	9.0	38	3 C.W.	G.
				Fortune.....	49.4	91	40	10.0	39	3 C.W.	G.
				Larain.....	59.5	81	37	10.0	38	3 C.W.	G.
				Valor.....	49.1	84	34	10.0	37	3 C.W.	G.
Necessary difference—13.2 bushels.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
3B.....	14	1	B	John P. Enright, Lintlaw.							
3D.....	14	9	B	Ronald D. Cleghorn, Kinistino.							

WHEAT POOL DISTRICT 15

JERRY CHAMBUL, HONEYMOON											
3B.....	15	10	C	Exeter.....	99.9	101	43	10.0	36	1 Feed	V.G.
				Fortune.....	105.8	98	44	10.0	34	1 Feed	V.G.
				Larain.....	86.5	97	39	10.0	39	3 C.W.	G.
				Valor.....	62.4	95	36	10.0	36	3 C.W.	G.
Necessary difference—9.8 bushels.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
3B.....	15	9	B	Eugene H. Johns, Henribourg.							

WHEAT POOL DISTRICT 16

Cereal Variety Zone	Dist.	Sub. Dist.	Test Designation	Varieties	Yield Bus. per acre	Days Seeding to Ripening	Plant Height in Inches	Straw Strength	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
WILFRED C. GELINAS, FIELDING											
3G	16	1	B	Exeter	24.3	—	—	—	34	3 C.W.	—
				Fortune	22.4	—	—	—	33	2 Feed	—
				Larain	18.6	—	—	—	37	2 C.W.	—
				Valor	12.8	—	—	—	36	2 C.W.	—
Necessary difference—4.1 bushels.											
GEORGE M. SYMCHYCH, HAFFORD											
3B	16	2	B	Exeter	33.0	—	—	—	33	2 Feed	—
				Fortune	30.6	—	—	—	33	2 Feed	—
				Larain	24.8	—	—	—	36	3 C.W.	G.
				Valor	19.8	—	—	—	34	3 C.W.	G.
Necessary difference—3.5 bushels.											
JACK K. BOUMA, NORTH BATTLEFORD											
3G	16	3	C	Exeter	92.0	—	32	10.0	32	2 Feed	—
				Fortune	94.4	—	32	10.0	31	2 Feed	—
				Larain	97.8	—	28	10.0	38	3 C.W.	G.
				Valor	74.0	—	36	10.0	33	2 Feed	—
Necessary difference—13.4 bushels.											
KATHLEEN NOYCE, LLOYDMINSTER											
3E	16	6	B	Exeter	97.5	—	38	—	39	3 C.W.	G.
				Fortune	100.7	—	40	—	38	3 C.W.	G.
				Larain	61.4	84	34	—	42	Ex. 3 C.W.	G.
				Valor	43.9	83	30	—	37	3 C.W.	G.
Necessary difference—11.4 bushels.											
LOUIS DE MONTARNAL, BUTTE ST. PIERRE											
3E	16	7	B	Exeter	95.8	94	34	9.8	40	Ex. 3 C.W.	G.
				Fortune	84.3	94	35	9.8	37	3 C.W.	G.
				Larain	66.3	82	33	9.5	40	Ex. 3 C.W.	G.
				Valor	47.0	82	33	9.5	37	3 C.W.	G.
Necessary difference—12.5 bushels.											
NORMAN E. SOISETH, MAYFAIR											
3G	16	10	B	Exeter	22.1	108	21	8.3	34	3 C.W.	G.
				Fortune	23.6	109	21	8.8	34	3 C.W.	G.
				Larain	18.1	104	20	9.0	40	Ex. 3 C.W.	G.
				Valor	14.9	100	21	9.3	36	3 C.W.	G.
Necessary difference—2.7 bushels.											
GEORGE WILLICK, MILDRED											
4B	16	10	C	Exeter	34.7	93	26	10.0	37	3 C.W.	G.
				Fortune	41.4	93	29	10.0	38	3 C.W.	G.
				Larain	32.5	93	22	10.0	39	3 C.W.	G.
				Valor	32.8	89	23	10.0	37	3 C.W.	G.
Necessary difference—5.1 bushels.											
JUNE E. BARNES, RAPID VIEW											
4B	16	11	B	Exeter	66.2	—	—	—	37	3 C.W.	G.
				Fortune	73.8	—	—	—	38	3 C.W.	G.
				Larain	48.2	—	—	—	38	3 C.W.	G.
				Valor	52.8	—	—	—	36	3 C.W.	G.
Samples bulked.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
3G	16	5	C	Reginald G. Black, Paynton.							

BARLEY TESTS

Barley tests were conducted in the open prairie region comprised of Cereal Variety Zones 1A to 2F inclusive. For purposes of analyses the barley area was divided into the following four sections:

1. Cereal Variety Zones 1A and 2A.
2. Cereal Variety Zones 2B and 2C.
3. Cereal Variety Zone 2D.
4. Cereal Variety Zones 2E and 2F.

None of the tests conducted in Zones 1B and 1C were successfully completed.

Four feed varieties were used in each test and the data from all tests within each of the above areas were averaged together. The results are shown in the following tables and a comparison of the varieties is made.

DESCRIPTION OF VARIETIES

Titan is a six-rowed, smooth-awned feed variety originated at the University of Alberta, from the cross Trebi X Glabron. It is susceptible to rusts but is resistant to smuts. This variety is eligible for the feed grades.

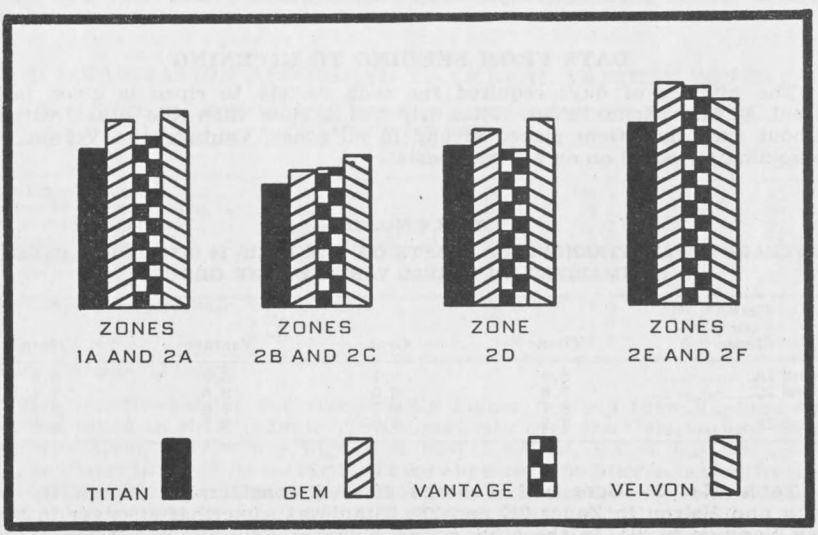
Gem is a six-rowed, semi-smooth-awned, early maturing variety originated at the Idaho Experiment Station, from the cross Atlas X Vaughn. This variety is eligible for the feed grades.

Vantage is a new six-rowed, smooth-awned feed variety originated at the Brandon Experimental Station from the cross (Newal X Peatland) X Plush. It is resistant to stem rust but is susceptible to leaf rust and smuts. This variety is eligible for the feed grades.

Velvon is a new six-rowed, smooth-awned feed variety originated at the Utah Agricultural Experiment Station from the cross Colorado 3063 X Trebi. Colorado 3063 is of hybrid origin, having been developed from the cross Coast X Lion. Velvon is moderately resistant to smuts but susceptible to rusts. This variety is eligible for the feed grades.

GRAIN YIELD

Table No. 31—An average of all tests shows that **Velvon** produced the highest yields followed by **Gem, Vantage,** and **Titan,** in that order. Velvon outyielded all other varieties in Zones 1A and 2A, 2B and 2C, and 2D. It placed third in Zones 2E and 2F. Velvon failed to outyield Gem significantly in any



Histograms Showing Barley Yields by Cereal Variety Zones (see centre page map).

zone but exceeded Titan by more than the necessary difference in Zones 1A and 2A, and 2B and 2C. It significantly outyielded Vantage in Zones 1A and 2A, and 2D. **Gem** was high yielder in Zones 2E and 2F, placed second in 1A and 2A, and in 2D, and ranked third in Zones 2B and 2C. **Vantage** gave its best performance in Zones 2B and 2C, and 2E and 2F, where it placed second in yield. **Titan** ranked third in Zone 2D but was outyielded by all other varieties in the other zones.

TABLE NO. 31.—AVERAGE YIELD IN BUSHELS PER ACRE SUMMARIZED BY CEREAL VARIETY ZONE GROUPS

Cereal Variety Zones	No. of Satisfactory Tests	Titan	Gem	Vantage	Velvon	Necessary Difference in Bushels
1A and 2A.....	22	32.2	38.1	34.8	40.0	2.1
2B and 2C.....	11	24.8	27.6	28.0	30.8	3.4
2D.....	3	32.4	35.9	31.7	38.0	5.8
2E and 2F.....	4	37.0	45.2	44.4	42.0	5.6

Past Performance and Official Recommendations

Titan has been recommended during recent years as one of the best barley varieties for use throughout the plains area of the Province. In Wheat Pool tests during 1947 and 1948, however, Titan proved inferior in yield to some of the newer varieties. A general average of all tests in 1947 showed Titan yielding in fifth place out of six varieties. In 1948 Titan yielded fourth and last. **Vantage** has produced relatively good yields during each of the two years it has been tested. In 1947 it ranked second out of six varieties, on a general average basis. In 1948, Vantage placed third out of four. Vantage was licensed early in 1948 and since that time has been approved for use in the eastern zones (3A, 3B, 3C, 3D, 3F and 4A) and has replaced Plush as the officially recommended variety in Zones 2A and 2B. **Gem** outyielded five other barley varieties in tests conducted during 1947. In 1948 it placed generally second to Velvon. Gem was originated in Idaho and has not been licensed for use in Canada. It has produced good yields in Wheat Pool tests carried out so far but its bushel weight has generally been somewhat inferior. **Velvon** outyielded all other varieties in the 1948 tests and placed third on an average basis in 1947. Velvon is another new variety, produced in Utah. It has not been licensed as yet in Canada but tests carried out so far are promising.

DAYS FROM SEEDING TO RIPENING

The number of days required for each variety to ripen is given in the Cereal Variety Zone tables. **Titan** ripened earlier than the other varieties without exception. **Gem** placed second in all zones. **Vantage** and **Velvon** were approximately equal on an average basis.

TABLE NO. 32.—

AVERAGE STRAW STRENGTH OF PLANTS ON THE BASIS 10 (STRONG), 0 (WEAK) SUMMARIZED BY CEREAL VARIETY ZONE GROUPS

Cereal Variety Zones	Titan	Gem	Vantage	Velvon
1A and 2A.....	8.9	9.1	8.9	8.9
2B and 2C.....	7.8	8.0	8.0	7.7
2D.....	8.7	8.3	7.8	8.1
2E and 2F.....	7.5	9.5	9.5	6.5

Table No. 32—**Gem** and **Vantage** showed considerable superiority over **Titan** and **Velvon** in Zones 2E and 2F. Titan was somewhat stronger in straw than Vantage in 2D. In the other areas, however, only minor differences were observed between the varieties in straw strength.

TABLE NO. 33.—
AVERAGE NECK STRENGTH OF PLANTS ON BASIS 1 (STRONG), 2 (MEDIUM), 3 (WEAK) SUMMARIZED BY CEREAL VARIETY ZONE GROUPS

Cereal Variety Zones	Titan	Gem	Vantage	Velvon
1A and 2A	1.8	1.4	1.5	1.4
2B and 2C	1.8	1.5	1.6	1.6
2D	1.7	2.0	2.3	2.0
2E and 2F	2.0	1.0	1.0	1.5

Table No. 33—An average of all tests shows that **Gem, Velvon** and **Vantage** were practically equal in neck strength. The only major difference in this characteristic appeared in Zones 2E and 2F, where Gem and Vantage were found to be somewhat stronger than Titan and Velvon.

TABLE NO. 34.—AVERAGE WEIGHT PER MEASURED BUSHEL SUMMARIZED BY CEREAL VARIETY ZONE GROUPS

Cereal Variety Zones	Titan	Gem	Vantage	Velvon
1A and 2A	47.3	44.8	48.2	45.3
2B and 2C	46.8	43.3	45.8	44.3
2D	48.4	46.8	49.2	47.0
2E and 2F	47.8	48.3	49.3	47.0

Table No. 34—**Vantage** was superior in bushel weight. It outweighed all other varieties in three zones and placed second in one. A general average shows that **Titan** ranked second in this characteristic. **Velvon** was third in bushel weight and **Gem** fourth.

TABLE NO. 35.—COMMERCIAL GRADES IN PERCENTAGE
(ZONES 1A to 2F)

Variety	1 Fd.	2 Fd.	3 Fd.
Titan	89.1	10.9	—
Gem	54.3	26.1	19.6
Vantage	76.1	19.6	4.3
Velvon	56.5	23.9	19.6

Table No. 35—**Titan** graded better than the other varieties. **Vantage** ranked second. **Gem** and **Velvon** followed with little difference being shown between these two varieties.

SUMMARIZATION ACCORDING TO CEREAL VARIETY ZONES

TABLE NO. 36.—SUMMARIZED RESULTS FOR ZONE GROUP 1A AND 2A
(22 satisfactory tests)

	Titan	Gem	Vantage	Velvon
Yield in bushels per acre	32.2	38.1	34.8	40.0
Days from seeding to ripening	86.8	88.1	89.8	89.1
Height of plants in inches	21.1	21.3	22.6	22.1
Straw strength	8.9	9.1	8.9	8.9
Neck strength	1.8	1.4	1.5	1.4
Bushel weight in pounds	47.3	44.8	48.2	45.3
Commercial grades in percentage: 1 Fd.	76.0	52.0	84.0	56.0
2 Fd.	20.0	24.0	12.0	24.0
3 Fd.	4.0	24.0	4.0	20.0

Necessary difference—2.1 bushels.

Table No. 36—**Velvon** was significantly higher in yield than Vantage and Titan but failed to show definite yield superiority over the Gem variety. Compared with Gem, Velvon was higher in bushel weight, longer but weaker in straw, and later in reaching maturity. There appears to be little actual difference in the comparative performances of these two varieties in this area. **Vantage** ranked third in yield. It excelled in bushel weight and height but matured later than the other varieties. **Titan** was low in yield but had good bushel weight and matured early.

TABLE NO. 37.—SUMMARIZED RESULTS FOR ZONE GROUP 2B AND 2C
(11 satisfactory tests)

	Titan	Gem	Vantage	Velvon
Yield in bushels per acre	24.8	27.6	28.0	30.8
Days from seeding to ripening	83.8	84.4	84.8	85.6
Height of plants in inches	18.4	20.3	20.4	19.7
Straw strength	7.8	8.0	8.0	7.7
Neck strength	1.8	1.5	1.6	1.6
Bushel weight in pounds	46.8	43.3	45.8	44.3
Commercial grades in percentage: 1 Fd.	100.0	33.3	50.0	41.7
2 Fd.	—	41.7	41.7	25.0
3 Fd.	—	25.0	8.3	33.3

Necessary difference—3.4 bushels

Table No. 37—**Velvon** was high in yield but its superiority was significant only in the case of Titan. Velvon matured later than the other varieties, and was slightly weaker in straw. **Vantage** was second in yield. It practically equalled Gem in earliness, height, straw strength and neck strength and exceeded the latter variety in bushel weight. **Gem** was third in yield. **Titan** matured early and produced excellent bushel weight and grades, but was low in yield and relatively short in straw.

TABLE NO. 38.—SUMMARIZED RESULTS FOR ZONE 2D
(3 satisfactory tests)

	Titan	Gem	Vantage	Velvon
Yield in bushels per acre	32.4	35.9	31.7	38.0
Days from seeding to ripening	—	—	—	—
Height of plants in inches	21.3	21.7	22.0	22.7
Straw strength	8.7	8.3	7.8	8.1
Neck strength	1.7	2.0	2.3	2.0
Bushel weight in pounds	48.4	46.8	49.2	47.0
Commercial grades in percentage: 1 Fd.	100.0	80.0	80.0	80.0
2 Fd.	—	20.0	20.0	20.0
3 Fd.	—	—	—	—

Necessary difference—5.8 bushels.

Table No. 38—**Velvon** was high in yield. It exceeded Vantage significantly but failed to outyield Gem or Titan by an amount equal to the necessary difference. Velvon was taller than the other varieties and gave a generally satisfactory performance. **Gem** was second in yield but was comparatively light in bushel weight. Although third in yield **Titan** showed superiority in strength of straw and neck. It outweighed Gem and Velvon and graded well. **Vantage** excelled in bushel weight but was low in yield and showed weakness of straw and neck.

TABLE NO. 39.—SUMMARIZED RESULTS FOR ZONE GROUP 2E AND 2F
(4 satisfactory tests)

	Titan	Gem	Vantage	Velvon
Yield in bushels per acre	37.0	45.2	44.4	42.0
Days from seeding to ripening	92.0	93.0	94.0	94.0
Height of plants in inches	22.5	25.5	27.5	26.0
Straw strength	7.5	9.5	9.5	6.5
Neck strength	2.0	1.0	1.0	1.5
Bushel weight in pounds	47.8	48.3	49.3	47.0
Commercial grades in percentage: 1 Fd.	100.0	100.0	100.0	75.0
2 Fd.	—	—	—	25.0
3 Fd.	—	—	—	—

Necessary difference—5.6 bushels.

Table No. 39—**Gem** was high in yield but only in the case of Titan was the difference of a significant nature. It gave a good performance in other characteristics but proved inferior to Vantage in height and bushel weight. **Vantage** was slightly late in maturing but its superior bushel weight and height and its excellent strength of straw and neck merit consideration. **Velvon** was quite satisfactory in yield but its weakness of straw and comparatively lower bushel weight are disadvantages. **Titan** ripened early but proved definitely inferior in yield. It was somewhat weak in straw and neck.

TABLE No. 40

Individual Summarized Results of All Tests—Barley

WHEAT POOL DISTRICT 1

Cereal Variety Zone	Dist.	Sub. Dist.	Test Designation	Varieties	Yield Bus. per acre	Days Seeding to Ripening	Plant Height in Inches	Straw Strength	Neck Strength	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
HERBERT J. OLSON, TORQUAY												
2A	1	6	B	Titan	4.2	—	—	—	—	(A)	(E) 2 Feed	—
				Gem	11.5	—	—	—	—	40	3 Feed	—
				Vantage	4.8	—	—	—	—	(A)	(E) 2 Feed	—
				Velvon	7.3	—	—	—	—	40	3 Feed	—
Badly damaged by livestock.												
FRANKLIN E. FRIJOUF, MACOUN												
2A	1	6	C	Titan	46.3	91	24	10.0	1.8	45	2 Feed	—
				Gem	51.5	93	21	10.0	1.0	46	1 Feed	—
				Vantage	44.9	—	24	10.0	1.0	49	1 Feed	—
				Velvon	56.5	—	24	10.0	1.0	46	1 Feed	—
Necessary Difference—4.3 Bushels.												
ELDEN D. LOHSE, RATCLIFFE												
2A	1	7	B	Titan	45.4	83	19	7.5	1.8	47	1 Feed	—
				Gem	53.4	88	15	9.5	1.8	48	1 Feed	—
				Vantage	54.2	89	23	9.8	1.0	51	1 Feed	—
				Velvon	59.8	89	18	8.5	1.8	48	1 Feed	—
Necessary Difference—2.9 Bushels.												
MERLE G. CHAPMAN, ARCOLA												
2A	1	9	B	Titan	58.2	103	23	8.0	—	46	1 Feed	—
				Gem	80.6	105	25	10.0	—	45	2 Feed	—
				Vantage	68.1	103	26	9.0	—	48	1 Feed	—
				Velvon	77.0	105	26	9.0	—	46	1 Feed	S.E.
Necessary Difference—8.2 Bushels. (A)—Insufficient to calculate bushel weight. (E)—Estimated grade.												
Tests discarded on account of damage by drought, pests, hail, or other causes.												
2A	1	4	B	A. Morgan Kay, North Portal.								

WHEAT POOL DISTRICT 2

Cereal Variety Zone	Dist.	Sub. Dist.	Test Designation	Varieties	Yield Bus. per acre	Days Seeding to Ripening	Plant Height in Inches	Straw Strength	Neck Strength	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
JAY A. LARSEN, RADVILLE												
2A	2	1	C	Titan	—	—	—	—	—	—	—	—
				Gem	41.6	83	22	10.0	1.0	44	2 Feed	—
				Vantage	35.7	87	23	10.0	2.0	51	1 Feed	—
				Velvon	29.6	85	22	10.0	1.0	44	2 Feed	—
Samples incomplete. Damaged by poultry.												
BUDD J. ALDRED, CEYLON												
2A	2	2	A	Titan	14.8	—	—	—	—	41	3 Feed	—
				Gem	18.2	—	—	—	—	39	3 Feed	—
				Vantage	9.4	—	—	—	—	37	3 Feed	—
				Velvon	19.9	—	—	—	—	41	3 Feed	—
Necessary Difference—4.3 Bushels.												
NORMAN F. TRAVLAND, CORONACH												
1A	2	3	C	Titan	10.3	79	18	10.0	1.8	49	1 Feed	—
				Gem	16.6	79	17	10.0	1.0	44	2 Feed	—
				Vantage	21.2	82	21	10.0	1.0	49	1 Feed	—
				Velvon	19.7	80	19	10.0	1.0	45	2 Feed	—
Damaged by grasshoppers.												
DONALD Z. MONTGOMERY, WILLOW BUNCH												
1A	2	4	B	Titan	36.4	—	—	10.0	1.0	50	1 Feed	—
				Gem	39.1	—	—	10.0	1.0	46	1 Feed	—
				Vantage	34.6	—	—	10.0	1.0	47	1 Feed	—
				Velvon	50.9	—	—	9.8	1.0	47	1 Feed	—
Necessary Difference—5.9 Bushels.												

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bus. per acre	Days Seed-ing to Ripen-ing	Plant Height in Inches	Straw Strength	Neck Strength	Pounds per Meas-ured Bushel	Com-mercial Grades	Grading Remarks
BERNARD M. WOLFE, KILLDEER												
1A.....	2	5	B	Titan.....	27.3	—	19	8.0	2.7	50	1 Feed	—
				Gem.....	31.4	—	18	9.0	2.7	48	1 Feed	—
				Vantage.....	26.2	—	18	8.0	2.7	50	1 Feed	—
				Velvon.....	30.2	—	17	9.0	2.7	46	1 Feed	—
Necessary difference—2.2 Bushels.												
MAURICE R. VERHELST, LAFLECHE												
1A.....	2	6	B	Titan.....	30.7	81	23	8.0	—	43	2 Feed	—
				Gem	32.2	79	23	9.0	—	40	3 Feed	—
				Vantage.....	21.5	91	23	9.5	—	44	2 Feed	—
				Velvon.....	32.2	87	23	8.2	—	41	3 Feed	—
Necessary Difference—4.3 Bushels.												
EARL T. HALL, CRANE VALLEY												
1A.....	2	8	B	Titan.....	43.7	80	26	8.3	2.0	47	1 Feed	—
				Gem.....	48.0	82	25	8.0	2.3	46	1 Feed	—
				Vantage.....	41.6	84	27	8.8	1.8	49	1 Feed	—
				Velvon.....	50.5	84	25	7.3	1.0	46	1 Feed	—
No significant grain yield difference between varieties.												
BERKLEY J. BIGLER, HORIZON												
1A.....	2	9	C	Titan.....	32.9	96	12	10.0	1.0	50	1 Feed	—
				Gem.....	36.1	97	12	10.0	1.0	48	1 Feed	—
				Vantage.....	31.6	95	12	10.0	1.0	49	1 Feed	—
				Velvon.....	40.1	96	14	9.0	1.0	49	1 Feed	—
No significant grain yield difference between varieties.												

Tests discarded on account of damage by drought, pests, hail, or other causes.

1A.....	2	6	C	Peter O'kraincee, Fir Mountain.
1A.....	2	7	B	Carl Klein, Limerick.
1A.....	2	10	B	Keith E. Webb, Amulet.

WHEAT POOL DISTRICT 3

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bus. per acre	Days Seed-ing to Ripen-ing	Plant Height in Inches	Straw Strength	Neck Strength	Pounds per Meas-ured Bushel	Com-mercial Grades	Grading Remarks
DONALD A. McLEOD, CLAYDON												
1C.....	3	4	B	Titan.....	3.0	90	21	8.3	2.0	46	1 Feed	—
				Gem.....	11.4	89	24	8.5	2.0	41	3 Feed	—
				Vantage.....	10.0	96	21	8.3	2.0	48	1 Feed	—
				Velvon.....	12.1	95	21	8.5	2.0	38	3 Feed	—
Damaged by hail.												
CHARLES J. FLETCHER, RAVENSCRAG												
1A.....	3	6	B	Titan.....	3.4	—	—	—	—	45	2 Feed	—
				Gem.....	4.1	—	—	—	—	36	3 Feed	—
				Vantage.....	4.6	—	—	—	—	43	2 Feed	—
				Velvon.....	6.8	—	—	—	—	39	3 Feed	—
Samples bulked. Badly damaged.												
JOHN W. REBBECK, JR., SOUTH FORK												
1A.....	3	7	B	Titan.....	25.0	85	—	9.0	2.0	49	1 Feed	—
				Gem.....	25.2	84	—	9.0	2.0	40	3 Feed	—
				Vantage.....	17.7	86	—	8.0	2.0	47	1 Feed	—
				Velvon.....	26.6	86	—	9.0	2.0	42	3 Feed	—
Necessary Difference—3.0 Bushels.												
LLOYD E. CARPENTER, HAZENMORE												
1A.....	3	10	A	Titan.....	30.9	83	25	8.3	2.0	46	1 Feed	—
				Gem.....	35.2	82	27	7.5	1.5	40	3 Feed	—
				Vantage.....	33.4	85	25	8.8	2.0	47	1 Feed	—
				Velvon.....	39.2	84	26	8.0	1.3	43	2 Feed	—
No significant grain yield difference between varieties.												

Tests discarded on account of damage by drought, pests, hail, or other causes.

1A.....	3	1	B	Gordon F. Cowie, Mankota.
1C.....	3	5	C	Vern W. Howell, Robsart.
1A.....	3	8	B	Gary E. Hammer, Shaunavon.
1A.....	3	9	B	Allan R. Oliver, Crichton.

WHEAT POOL DISTRICT 4

Cereal Variety Zone	Dist.	Sub. Dist.	Test Designation	Varieties	Yield Bus. per acre	Days Seeding to Ripening	Plant Height in Inches	Straw Strength	Neck Strength	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
ERLAND S. SUNDBY, STEWART VALLEY												
1A.....	4	3	B	Titan.....	27.8	86	15	8.0	2.0	49	1 Feed	—
				Gem.....	24.6	86	18	7.3	2.0	46	1 Feed	—
				Vantage.....	25.8	87	22	6.5	2.0	49	1 Feed	—
				Velvon.....	33.9	87	21	8.0	2.0	46	1 Feed	—
No significant grain yield difference between varieties.												
Tests discarded on account of damage by drought, pests, hail, or other causes.												
1B.....	4	1	C	Ernest W. Earl, Sidewood.								
1B.....	4	2	B	Victor G. Skye, Cardell.								
1B.....	4	7	B	Irene and Arnold Freitag, Richmound.								
1B.....	4	8	B	J. Douglas Kirk, Prelate.								
1A.....	4	10	B	Dennis W. Lien, Hazlet.								

WHEAT POOL DISTRICT 5

Cereal Variety Zone	Dist.	Sub. Dist.	Test Designation	Varieties	Yield Bus. per acre	Days Seeding to Ripening	Plant Height in Inches	Straw Strength	Neck Strength	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
ELWOOD E. McNUTT, DUNKIRK												
1A.....	5	1	B	Titan.....	43.8	102	27	9.5	2.0	48	1 Feed	—
				Gem.....	53.6	102	26	9.3	1.3	45	2 Feed	—
				Vantage.....	56.9	104	23	9.5	1.3	49	1 Feed	—
				Velvon.....	59.0	103	25	8.8	1.5	44	2 Feed	—
No significant grain yield difference between varieties.												
THOMAS J. RUNCIE, PAMBRUN												
1A.....	5	3	B	Titan.....	21.8	—	29	9.0	2.0	47	1 Feed	—
				Gem.....	26.6	—	29	9.0	1.8	44	2 Feed	—
				Vantage.....	19.2	—	29	8.5	2.0	49	1 Feed	—
				Velvon.....	25.5	—	29	8.8	2.3	45	2 Feed	—
No significant grain yield difference between varieties.												
CORNIE D. BROWN, McMAHON												
2C.....	5	4	B	Titan.....	39.8	—	15	9.0	2.0	48	1 Feed	—
				Gem.....	44.6	—	18	10.0	2.0	46	1 Feed	—
				Vantage.....	45.1	—	19	10.0	2.0	51	1 Feed	—
				Velvon.....	51.4	—	18	10.0	1.0	48	1 Feed	—
Necessary Difference—4.0 Bushels.												
RICHARD H. BOX, COURVAL												
1A.....	5	6	B	Titan.....	37.9	78	19	10.0	1.0	48	1 Feed	—
				Gem.....	52.4	88	27	9.0	1.0	46	1 Feed	—
				Vantage.....	51.1	88	28	9.0	2.0	50	1 Feed	—
				Velvon.....	51.1	80	22	9.0	1.0	47	1 Feed	—
No signifcant grain yield difference between varieties.												
ANNA A. GREEN, BOHARM												
1A.....	5	7	A	Titan.....	19.1	80	23	9.0	2.0	48	1 Feed	—
				Gem.....	20.8	82	23	9.0	1.2	46	1 Feed	—
				Vantage.....	23.5	84	23	8.0	1.0	50	1 Feed	—
				Velvon.....	27.5	82	24	9.0	1.0	46	1 Feed	—
Necessary Difference—2.1 Bushels.												
JOYCE AND STANLEY WELLS, TUXFORD												
2E.....	5	8	B	Titan.....	31.6	—	15	5.0	2.0	46	1 Feed	—
				Gem.....	41.4	—	19	9.0	1.0	47	1 Feed	—
				Vantage.....	45.4	—	19	9.0	1.0	51	1 Feed	—
				Velvon.....	35.6	—	18	5.0	2.0	46	1 Feed	—
Necessary Difference—5.5 Bushels.												
DUANE D. JOHNSON, AQUADELL												
1A.....	5	9	B	Titan.....	12.6	—	—	—	—	49	1 Feed	—
				Gem.....	25.2	—	—	—	—	46	1 Feed	—
				Vantage.....	15.6	—	—	—	—	51	1 Feed	—
				Velvon.....	24.2	—	—	—	—	46	1 Feed	—
Necessary Difference—3.6 Bushels.												
HENRY UNGER, ERNFOLD												
1A.....	5	10	B	Titan.....	30.4	—	—	—	—	51	1 Feed	—
				Gem.....	37.1	—	—	—	—	49	1 Feed	—
				Vantage.....	34.2	—	—	—	—	51	1 Feed	—
				Velvon.....	40.3	—	—	—	—	48	1 Feed	—
Necessary Difference—3.7 Bushels.												
Tests discarded on account of damage by drought, pests, hail, or other causes.												
1A.....	5	2	B	Paul M. Mang, Arbuthnot.								
1A.....	5	5	B	Arthur Arnold, Shamrock.								

WHEAT POOL DISTRICT 6

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bus. per acre	Days Seed-ing to Ripen-ing	Plant Height in Inches	Straw Strength	Neck Strength	Pounds per Meas-ured Bushel	Com-mercial Grades	Grading Remarks
JACK N. FLAMAN, JR., VIBANK												
2A.....	6	2	C	Titan.....	28.0	96	11	9.5	1.8	45	2 Feed	—
				Gem.....	31.6	96	11	9.8	1.3	45	2 Feed	—
				Vantage.....	39.9	96	11	9.8	1.8	51	1 Feed	—
				Velvon.....	31.3	97	11	9.8	1.5	46	1 Feed	—
Necessary Difference—.5 Bushel.												
ROBERT A. RITCHIE, WILCOX												
2E.....	6	3	B	Titan.....	47.2	—	—	—	—	49	1 Feed	—
				Gem.....	53.8	—	—	—	—	49	1 Feed	—
				Vantage.....	53.5	—	—	—	—	51	1 Feed	—
				Velvon.....	53.2	—	—	—	—	47	1 Feed	—
No significant grain yield difference between varieties.												
PAUL J. BEITEL, BAYARD												
1A.....	6	4	B	Titan.....	26.9	91	22	7.8	2.3	47	1 Feed	—
				Gem.....	32.5	90	21	7.5	1.5	44	2 Feed	—
				Vantage.....	31.0	92	22	6.0	2.0	48	1 Feed	—
				Velvon.....	27.1	92	24	8.3	1.8	43	2 Feed	—
No significant grain yield difference between varieties.												
BARRY L. STRAYER, DRINKWATER												
2E.....	6	6	B	Titan.....	39.2	93	30	10.0	2.0	50	1 Feed	—
				Gem.....	56.7	95	32	10.0	1.0	50	1 Feed	—
				Vantage.....	51.2	96	36	10.0	1.0	49	1 Feed	—
				Velvon.....	54.6	96	34	8.0	1.0	51	1 Feed	—
Necessary Difference—8.5 Bushels.												
GEORGE SEIFERT, DISLEY												
2B.....	6	10	C	Titan.....	8.5	86	12	4.8	2.0	46	1 Feed	—
				Gem.....	9.2	86	24	10.0	1.0	43	2 Feed	—
				Vantage.....	12.6	88	19	9.0	1.0	44	2 Feed	—
				Velvon.....	10.8	90	16	7.0	1.0	43	2 Feed	—
No significant grain yield difference between varieties.												

WHEAT POOL DISTRICT 7

MIKE ERZA, CANDIAC												
2A.....	7	6	B	Titan.....	59.5	—	—	8.8	1.8	49	1 Feed	—
				Gem.....	68.8	—	—	10.0	1.0	51	1 Feed	—
				Vantage.....	62.9	—	—	9.0	1.0	51	1 Feed	—
				Velvon.....	61.1	—	—	9.0	1.5	52	1 Feed	—
No significant grain yield difference between varieties.												

WHEAT POOL DISTRICT 9

RAYMOND L. HARDS, TATE												
2B.....	9	7	B	Titan.....	27.5	—	—	—	—	47	1 Feed	—
				Gem.....	33.9	—	—	—	—	43	2 Feed	—
				Vantage.....	30.6	—	—	—	—	46	1 Feed	—
				Velvon.....	34.0	—	—	—	—	45	2 Feed	—
No significant grain yield difference between varieties.												
KENNETH JOHNSON, WYNYARD												
2B.....	9	8	B	Titan.....	35.5	85	22	9.3	1.0	47	1 Feed	—
				Gem.....	45.5	85	24	9.0	1.5	46	1 Feed	—
				Vantage.....	51.4	85	24	9.5	1.3	49	1 Feed	—
				Velvon.....	65.5	85	24	9.0	1.3	47	1 Feed	—
Necessary Difference—7.4 Bushels.												
Tests discarded on account of damage by drought, pests, hail, or other causes.												
2B.....	9	6	C	Edwin A. Jackson Jr., Drake.								

WHEAT POOL DISTRICT 10

Cereal Variety Zone	Dist.	Sub. Dist.	Test Designation	Varieties	Yield Bus. per acre	Days Seeding to Ripening	Plant Height in Inches	Straw Strength	Neck Strength	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
FRANK J. LIPP, DILKE												
2B.....	10	1	C	Titan.....	18.3	89	20	4.8	—	46	1 Feed	—
				Gem.....	16.7	89	20	4.0	—	40	3 Feed	—
				Vantage.....	16.5	89	20	4.3	—	40	3 Feed	—
				Velvon.....	18.5	90	20	4.5	—	39	3 Feed	—
No significant grain yield difference between varieties.												
GORDON AND JAMES WILSON, PENZANCE												
2B.....	10	1	D	Titan.....	21.7	72	17	8.5	1.0	46	1 Feed	—
				Gem.....	22.0	72	19	7.3	1.0	38	3 Feed	—
				Vantage.....	15.9	75	19	7.3	1.0	47	1 Feed	—
				Velvon.....	23.0	73	19	6.0	2.0	40	3 Feed	—
No significant grain yield difference between varieties.												
RUDY J. GROSS, RENOWN												
2B.....	10	8	B	Titan.....	29.0	86	24	9.0	2.0	47	1 Feed	—
				Gem.....	29.5	88	23	9.0	2.0	43	2 Feed	—
				Vantage.....	24.7	86	24	9.0	2.0	44	2 Feed	—
				Velvon.....	31.0	89	23	9.0	2.0	42	3 Feed	—
No significant grain yield difference between varieties.												
ALAN L. HAIGHT, HANLEY												
2B.....	10	9	A	Titan.....	11.6	79	17	8.3	3.0	46	1 Feed	—
				Gem.....	12.2	80	19	6.8	1.0	40	3 Feed	—
				Vantage.....	14.0	81	20	7.5	1.8	44	2 Feed	—
				Velvon.....	18.9	83	20	8.0	1.5	41	3 Feed	—
Necessary Difference—2.3 Bushels.												
RUSSELL A. ADAIR, JR., HARRIS												
2B.....	10	10	D	Titan.....	30.1	—	—	—	—	46	1 Feed	—
				Gem.....	31.3	—	—	—	—	45	2 Feed	—
				Vantage.....	30.7	—	—	—	—	45	2 Feed	—
				Velvon.....	28.2	—	—	—	—	47	1 Feed	—
No significant grain yield difference between varieties.												

Tests discarded on account of damage by drought, pests, hail, or other causes.

1A.....	10	2	A	Albert G. Hunter, Riverhurst.
2F.....	10	4	B	Gordon Burston, Wiseton.
2B.....	10	6	B	Douglas C. Vaughan, Loreburn.
2B.....	10	7	C	Ronald H. Banks, Davidson.

WHEAT POOL DISTRICT 11

Cereal Variety Zone	Dist.	Sub. Dist.	Test Designation	Varieties	Yield Bus. per acre	Days Seeding to Ripening	Plant Height in Inches	Straw Strength	Neck Strength	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
DONALD C. PEARSON, ESTON												
2F.....	11	3	B	Titan.....	30.0	91	—	—	—	46	1 Feed	—
				Gem.....	28.7	91	—	—	—	47	1 Feed	—
				Vantage.....	27.5	92	—	—	—	46	1 Feed	—
				Velvon.....	24.6	92	—	—	—	44	2 Feed	—
No significant grain yield difference between varieties.												
J. ESTHER BARRETT, FISKE												
1A.....	11	8	C	Titan.....	9.1	81	—	—	—	47	1 Feed	—
				Gem.....	13.1	81	—	—	—	46	1 Feed	—
				Vantage.....	22.4	81	—	—	—	47	1 Feed	—
				Velvon.....	16.8	85	—	—	—	45	2 Feed	—
Necessary Difference—4.3 Bushels.												

Tests discarded on account of damage by drought, pests, hail, or other causes.

1A.....	11	1	C	J. Roger McDonald, Sanctuary.
2F.....	11	2	B	Clare E. Sonmor, Forgan.
2F.....	11	7	B	Clarence A. Collins, Rosetown.

WHEAT POOL DISTRICT 12

Cereal Variety Zone	Dist.	Sub. Dist.	Test Designation	Varieties	Yield Bus. per acre	Days Seeding to Ripening	Plant Height in Inches	Straw Strength	Neck Strength	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
LONA M. WOOD, NEOLA												
2D.....	12	1	B	Titan.....	27.7	—	17	9.8	1.0	47	1 Feed	—
				Gem.....	24.9	—	16	9.0	1.0	45	2 Feed	—
				Vantage.....	18.0	—	18	7.0	2.0	45	2 Feed	—
				Velvon.....	30.0	—	19	8.0	1.0	43	2 Feed	—
Necessary Difference—4.0 Bushels.												

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bus. per acre	Days Seed-ing to Ripen-ing	Plant Height in Inches	Straw Strength	Neck Strength	Pounds per Meas-ured Bushel	Com-mercial Grades	Grading Remarks
STANLEY E. MILLS, BALJENNIE												
2D.....	12	2	B	Titan.....	40.4	—	24	8.0	2.0	51	1 Feed	—
				Gem.....	44.3	—	24	8.0	3.0	46	1 Feed	—
				Vantage.....	42.0	—	24	8.0	3.0	51	1 Feed	—
				Velvon.....	49.7	—	24	8.0	3.0	47	1 Feed	—
No significant grain yield difference between varieties.												
ALLAN R. SANDERS, RUTHILDA												
2D.....	12	3	B	Titan.....	13.4	—	23	8.3	2.0	46	1 Feed	—
				Gem.....	14.6	—	25	8.0	2.0	46	1 Feed	—
				Vantage.....	17.8	—	24	8.3	2.0	49	1 Feed	—
				Velvon.....	20.7	—	25	8.3	2.0	46	1 Feed	—
Badly damaged by grasshoppers.												
CHARLES R. ZUNTI, LUSELAND												
2D.....	12	5	B	Titan.....	29.0	—	—	—	—	49	1 Feed	—
				Gem.....	38.6	—	—	—	—	49	1 Feed	—
				Vantage.....	35.1	—	—	—	—	52	1 Feed	—
				Velvon.....	34.2	—	—	—	—	49	1 Feed	—
Necessary Difference—3.7 Bushels.												
EDWIN J. STANG, PRIMATE												
2D.....	12	6	B	Titan.....	24.4	—	—	—	—	49	1 Feed	—
				Gem.....	25.7	—	—	—	—	48	1 Feed	—
				Vantage.....	24.9	—	—	—	—	49	1 Feed	—
				Velvon.....	18.5	—	—	—	—	50	1 Feed	—
Samples bulked.												

WHEAT POOL DISTRICT 13

MERVYN PAPROSKI, LANIGAN												
2B.....	13	1	B	Titan.....	30.7	90	20	9.0	1.8	46	1 Feed	—
				Gem.....	33.4	91	17	8.0	2.0	46	1 Feed	—
				Vantage.....	30.9	90	18	7.0	2.0	45	2 Feed	—
				Velvon.....	29.6	91	18	8.0	2.5	45	2 Feed	—
No significant grain yield difference between varieties.												
MARJORIE I. BERG, ALLAN												
2B.....	13	3	D	Titan.....	7.0	83	19	—	—	48	1 Feed	—
				Gem.....	14.6	84	19	—	—	46	1 Feed	—
				Vantage.....	13.4	84	21	—	—	48	1 Feed	—
				Velvon.....	17.5	84	19	—	—	46	1 Feed	—
Badly damaged by grasshoppers.												
BILL PROCYSHEN, BLUCHER												
2B.....	13	4	B	Titan.....	20.6	—	—	—	—	49	1 Feed	—
				Gem.....	25.5	—	—	—	—	43	2 Feed	—
				Vantage.....	35.6	—	—	—	—	47	1 Feed	—
				Velvon.....	28.4	—	—	—	—	48	1 Feed	—
Necessary Difference—7.0 Bushels.												

Tests discarded on account of damage by drought, pests, hail, or other causes.

2B.....	13	2	B	Jean L. Brotchie, Young,
2B.....	13	6	A	Verne E. Shockey, Vanscoy.
2B.....	13	8	B	Maurice A. Weir, Aberdeen.

Crop Comparison Tests

A new feature of the 1948 tests was a comparison between the four major spring crops grown in Saskatchewan. The project included Thatcher wheat, Fortune oats, Montcalm barley and Dakota flax and individual tests using these four varieties were seeded in the eastern, north-eastern and northern Cereal Variety Zones of the Province. The comparison was made in an effort to determine the general relationship on a cash value per acre basis between the four crops when seeded under identical conditions. There are several important factors which should be taken into consideration in studying the results which follow.

One such factor is price fluctuation. The prices used in determining the cash value relationships in this test were the average cash prices, basis Fort William-Port Arthur, for the month of September, 1948, in the case of oats, barley and flax, and the Canadian Wheat Board price for wheat effective during the period (plus an additional payment of 20 cents per bushel since announced). The cash values per acre will change as the prices of the different grains change. **It should be stressed, therefore, that the information contained in the following cash value tables is applicable only to the month of September, 1948.**

Another factor which should be considered is the different effect which certain growing conditions have on different crops. Thus, although a crop may have produced high yields in comparison with the others in 1948, the situation may be different in another year when weather conditions are altered.

It should also be kept in mind while studying these results that the necessity for proper farm practices will often make the actual cash value of a crop a secondary consideration. Factors such as crop rotations and feed requirements will influence the choice of crop to be seeded in many cases.

In view of these various influences it is an obvious conclusion that the results of the crop comparison tests conducted during 1948 should be used only for confirmation and guidance when past experience or information from similar tests over a period of years are available to substantiate the results shown here.

It will be observed in the following tables that the cash values and average yields are somewhat higher than those usually obtained under field conditions. It is true that every effort is made in scientific variety testing to duplicate actual field conditions, but factors such as better preparation of the seed bed, the use of top-quality seed in all cases, and the exclusion of badly damaged tests from the average results tend to produce higher yields in the zone summaries than would be expected under ordinary farm conditions. It must be stressed, however, that the actual yield in a test of this nature is not in itself important. The important thing is the relationship between the performance of the different crops.

DESCRIPTION OF VARIETIES

Thatcher Wheat—(See page 10).

Fortune Oats—(See page 37).

Montcalm barley is a six-rowed, smooth-awned blue seeded variety which resembles O.A.C. 21 in many respects. It was produced at MacDonald College, Quebec, by Professor E. A. Lods from the cross Black Barbless X a blue Manchurian selection. Montcalm is a high quality malting variety eligible for grade 1 C.W. 6-Row. It is susceptible to rusts and smuts.

Dakota flax was developed by the United States Department of Agriculture and the North Dakota Agricultural Experiment Station from the cross Renew X Bison. It is resistant to rust and wilt. Dakota has blue blossoms, and medium sized brown seeds which produce good quality oil.

TABLE NO. 41.—AVERAGE COMPARATIVE CASH VALUES PER ACRE OF FOUR CROPS SUMMARIZED BY CEREAL VARIETY ZONES

Cereal Variety Zone	No. of Satisfactory Tests	Thatcher Wheat	Fortune Oats	Montcalm Barley	Dakota Flax
3A	3	$53.00	$44.32	$49.15	$77.91
3B	3	67.22	48.85	59.84	58.77
3C	7	53.20	52.41	65.02	71.60
3E	3	24.90	16.62	18.11	27.91
3F	4	58.40	56.77	72.73	70.71
3G	2	45.06	29.41	39.45	57.92
4A and 4B	2	68.16	57.71	66.38	66.25

NOTE.—The comparative cash values were computed using the average cash prices for the month of September, 1948, basis in store Fort William-Port Arthur, in the case of oats, barley and flax and the Canadian Wheat Board price (plus an additional 20 cents payment since announced) for wheat. The prices used were—Wheat 1 Northern—$1.75 per bushel; Oats—2 C.W.—74 cents per bushel; Barley—1 C.W. 6 Row—$1.13 7/8 per bushel; Flax—1 C.W.—$4.06 1/2 per bushel.

CASH VALUE PER ACRE

Table No. 41—It must be stressed that the cash values given in Table No. 41 apply only to the month of September, 1948. As mentioned previously, market fluctuations change the values from day to day and even as this booklet goes to press the value relationships of the crops has been altered. On the basis of average prices for September, however, **Dakota** flax appeared to have a definite cash value advantage over the other varieties in the test. It exceeded the other varieties in value per acre in Cereal Variety Zones 3A, 3C, 3E and 3G, but placed second to Montcalm barley in the extreme northeast (Zone 3F) and was lower in value than both Thatcher and Montcalm in Zones 3B, 4A and 4B. Although **Thatcher** wheat was high in value for the Zones 3B, and 4A and 4B, it generally ranked second on an average basis. Its poorest comparative showing occurred in Zones 3C and 3F where it ranked third. **Montcalm** barley was high in value in Zone 3F, ranked second in three zones and third in three. **Fortune** oats was fourth in comparative cash value in all zones.

TABLE NO. 42.—AVERAGE YIELDS IN BUSHELS PER ACRE SUMMARIZED BY CEREAL VARIETY ZONES

Cereal Variety Zone	Thatcher Wheat	Fortune Oats	Montcalm Barley	Dakota Flax
3A	30.5	60.4	43.2	19.2
3B	38.6	67.2	53.3	14.6
3C	30.9	72.3	58.2	17.6
3E	14.3	22.6	16.2	6.9
3F	33.6	77.7	63.9	17.4
3G	25.7	40.8	34.6	14.2
4A and 4B	39.8	80.1	58.3	16.3

GRAIN YIELD IN BUSHELS PER ACRE

Table No. 42—Fortune oats outyielded the other crops on a bushels per acre basis in every zone. Montcalm barley placed second with Thatcher wheat third and Dakota flax fourth. Considering the yields by zones on a percentage of wheat basis, it is found that oats and barley gave their best comparative performances in the east and northeast Zones 3A, 3C and 3F, and the extreme north—Zones 4A and 4B. Under the drought conditions which prevailed in Zones 3E and 3G, however, oats and barley yields were somewhat less favorable. Flax appeared to be the most satisfactory crop in Zones 3A, 3C and 3G.

GENERAL CHARACTERISTICS

Although Dakota appeared to have an advantage in cash value in the 1948 tests, the additional hazards connected with the growing of flax must be taken into account in the choice of a crop. In addition, the use of coarse grains for livestock feed and their value in crop rotations will, in many cases, outweigh the advantage of the higher cash value of flaxseed.

Other characteristics which will influence the choice of crop under certain conditions are the average number of days required from seeding to ripening, and height.

A comparison of the average number of days from seeding to ripening in the 1948 tests shows the following results: Montcalm barley ripened in 90 days, Fortune oats—93 days, Thatcher wheat—96 days, Dakota flax—109 days.

Fortune oats led in average height at 36 inches, Montcalm barley—32 inches, Thatcher wheat—31 inches, Dakota flax—22 inches.

Kenneth Zaleschuk, Maymont, and his Crop Comparison Test.

Molly Kelly of Saltcoats, Crop Comparison Test supervisor.

GENERAL CONCLUSIONS

In so far as the results of these 24 tests may be taken as representative of comparative crop performance in the regions concerned, several points stand out.

1. The excellent performance of Dakota flax places flax as an important crop of that region.

2. In all zones, Montcalm barley excelled Fortune oats in value, the differences for the most part being large. Considering that the varieties are representative of their respective crops, this information agrees with the results of the two-year crop comparative test made by the Junior Co-operators in 1941 and 1942 when barley was found to average almost 50 percent more than oats in western feed units per acre. The Field Husbandry Department of the University obtained similar results at Saskatoon in a four-year investigation (1936-1939).

3. Thatcher excelled Fortune oats in value in every zone, although some of the differences were small compared with barley-oat differences. Referring again to the earlier crop tests of the Junior Co-operators and the University, wheat was found to be almost equal to barley in western feed units per acre. Thus we find close agreement among all of the results.

Finally, the usefulness of wheat as a feed has been demonstrated to be close to that of barley and oats, thus among the three crops it appears that wheat and barley excel oats in both feeding value and market value per acre in the areas under consideration. As for flax, the results place it as one of the major crops.

TABLE No. 43

Individual Summarized Results of Crop Comparison Tests

WHEAT POOL DISTRICT 1

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bushels per Acre	Cash Value per Acre	Days Seeding to Ripening	Plant Height in Inches	Pounds per Meas-ured Bushel	Commercial Grades	Grading Remarks
GRANT McPHERSON, GAINSBOROUGH											
3A.....	1	1	B	Thatcher wheat....	2.0	$3.24	—	—	53	No. 5	G., F.
				Fortune Oats.....	4.9	3.26	—	—	22	3 Feed	—
				Montcalm barley..	2.3	2.32	—	—	39	3 Feed	—
				Dakota flax.....	7.4	30.08	—	—	54	1 C.W.	—
Thatcher, Fortune and Montcalm damaged.											
ROBERT A. SMYTH, KENNEDY											
3A.....	7	3	A	Thatcher wheat....	34.9	$ 61.07	96	40	64	1 Nor.	—
				Fortune oats.....	83.2	61.57	96	46	42	2 C.W.	—
				Montcalm barley..	53.5	60.92	88	40	52	2 C.W. 6R.	W.S.
				Dakota flax.....	20.5	83.33	119	32	55	1 C.W.	—
BRUCE J. McCARTHY, CORNING											
3A.....	7	5	B	Thatcher wheat....	19.3	$ 33.77	105	32	62	1 Nor.	—
				Fortune oats.....	38.3	28.34	101	36	40	2 C.W.	—
				Montcalm barley..	26.7	30.40	97	36	50	1 C.W. 6R.	—
				Dakota flax.....	12.9	52.44	109	24	55	1 C.W.	—
C. HENRY HOOD, WOLSELEY											
3A.....	7	7	B	Thatcher wheat....	37.3	$ 64.16	94	33	64	2 Nor.	G.I.
				Fortune oats.....	59.8	43.06	92	40	38	3 C.W.	G.
				Montcalm barley..	49.3	56.14	88	35	51	2 C.W. 6R.	W.S.
				Dakota flax.....	24.1	97.97	106	25	54	1 C.W.	—
EVERETT R. KING, ROCANVILLE											
3C.....	7	8	B	Thatcher wheat....	30.0	$ 51.60	97	29	60	2 Nor.	G.I.
				Fortune oats.....	82.0	58.11	92	32	37	1 Feed	W.S.
				Montcalm barley..	49.3	52.19	95	27	46	1 Feed	W.S.
				Dakota flax.....	21.7	88.21	104	24	54	1 C.W.	—
B. DONALD LANDINE, STOCKHOLM											
3C.....	7	10	B	Thatcher wheat....	42.0	$ 73.50	95	42	63	1 Nor.	—
				Fortune oats.....	88.1	65.19	88	49	42	2 C.W.	—
				Montcalm barley..	62.8	71.51	89	41	50	2 C.W. 6R.	W.S.
				Dakota flax.....	15.5	63.01	121	27	56	1 C.W.	—
STEPHEN H. BARILLA, GRAYSON											
3C.....	7	11	C	Thatcher wheat....	43.6	$ 74.12	—	35	62	3 Nor.	V.G.
				Fortune oats.....	90.7	65.64	—	42	40	Ex. 3 C.W.	G.
				Montcalm barley..	102.4	116.60	—	35	52	2 C.W. 6R.	W.S.
				Dakota flax.....	31.5	128.05	—	24	54	1 C..W	—

WHEAT POOL DISTRICT 8

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bushels per Acre	Cash Value per Acre	Days Seeding to Ripening	Plant Height in Inches	Pounds per Meas-ured Bushel	Commercial Grades	Grading Remarks
MOLLY V. KELLY, SALTCOATS											
3B.....	8	2	B	Thatcher wheat....	38.3	$ 67.02	—	—	62	1 Nor.	—
				Fortune oats.....	65.0	48.10	—	—	41	2 C.W.	—
				Montcalm barley..	65.3	69.13	—	—	49	1 Feed	B. W.S.
				Dakota flax.....	—	—	—	—	—	—	—
Samples incomplete. Damaged by birds.											
TEDDY W. WASYLYSHEN, GORLITZ											
3C.....	8	6	C	Thatcher wheat....	28.7	$ 48.79	95	36	57	3 Nor.	—
				Fortune Oats.....	77.7	57.50	94	46	38	2 C.W.	G.
				Montcalm barley..	50.0	55.31	93	40	47	3 C.W. 6R.	—
				Dakota flax.....	20.4	82.93	—	24	53	1 C.W.	—
BORIS J. STRILCHUK, ARRAN											
4A.....	8	10	B	Thatcher wheat....	29.7	$ 50.49	98	39	61	3 Nor.	G.I.
				Fortune oats.....	75.8	54.58	99	47	35	3 C.W.	G.
				Montcalm barley..	47.4	53.97	94	38	50	2 C.W. 6R.	W.S.
				Dakota flax.....	13.6	55.28	112	25	54	1 C.W.	—
Tests discarded on account of damage by drought, pests, hail, or other causes.											
3B.....	8	8	B	Alvin E. Sjolie, Sturgis.							

WHEAT POOL DISTRICT 9

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bushels per Acre	Cash Value per Acre	Days Seeding to Ripening	Plant Height in Inches	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
HAROLD TKATCH, JASMIN											
3C.....	9	1	D	Thatcher wheat....	23.5	$ 41.12	97	35	61	1 Nor.	—
				Fortune oats.....	46.2	32.74	83	33	35	1 Feed	St.
				Montcalm barley..	41.6	44.04	84	33	49	1 Feed	B. W.S.
				Dakota flax.....	14.0	56.91	102	24	54	1 C.W.	—
REINHOLD R. WODTKE, PUNNICHY											
3C.....	9	7	C	Thatcher wheat....	12.6	$ 20.41	89	26	57	No. 5	F., G.
				Fortune oats.....	46.7	33.10	93	26	38	1 Feed	V.G.
				Montcalm barley..	41.6	44.04	87	26	46	1 Feed	G.
				Dakota flax.....	—	—	95	20	—	—	—
Flax yields not available.											
F. N. MURPHY, WADENA											
3C.....	9	10	C	Thatcher wheat....	23.1	$ 39.73	—	—	60	2 Nor.	G.I.
				Fortune oats.....	86.7	62.74	—	—	40	Ex. 3 C.W.	G.
				Montcalm barley..	66.5	75.72	—	—	52	2 C.W. 6R.	W.S.
				Dakota flax.....	9.8	39.43	—	—	52	2 C.W.	G.
Tests discarded on account of damage by drought, pests, hail, or other causes.											
3C.....	9	2	B	Claude H. Stearns, Cupar.							

WHEAT POOL DISTRICT 12

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bushels per Acre	Cash Value per Acre	Days Seeding to Ripening	Plant Height in Inches	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
DONALD R. CRERAR, WINTER											
3E.....	12	7	B	Thatcher wheat....	16.9	$ 29.57	96	25	62	1 Nor.	—
				Fortune oats.....	29.2	21.61	87	25	39	2 C.W.	—
				Montcalm barley..	18.5	21.07	91	23	49	2 C.W. 6R.	—
				Dakota flax.....	7.6	30.89	109	20	55	1 C.W.	—

WHEAT POOL DISTRICT 13

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bushels per Acre	Cash Value per Acre	Days Seeding to Ripening	Plant Height in Inches	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
VELMA RENNEBERG, CUDWORTH											
3C.....	13	9	C	Thatcher wheat....	25.3	$ 43.52	91	27	62	2 Nor.	G.I.
				Fortune oats.....	34.7	24.98	91	30	35	3 C.W.	G.
				Montcalm barley..	34.9	39.74	88	24	49	2 C.W. 6R.	W.S.
				Dakota flax.....	10.5	42.68	129	10	53	1 C.W.	—
EVERARD H. HESSDORFER, ST. BENEDICT											
3B.....	13	10	C	Thatcher wheat....	21.8	$ 38.15	98	29	63	1 Nor.	—
				Fortune oats.....	35.4	25.49	95	32	39	3 C.W.	G.
				Montcalm barley..	33.6	38.26	95	28	50	2 C.W. 6R.	W.S.
				Dakota flax.....	11.2	45.53	111	20	51	1 C.W.	—

WHEAT POOL DISTRICT 14

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bushels per Acre	Cash Value per Acre	Days Seeding to Ripening	Plant Height in Inches	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
ERNEST O. HAGE, DAHLTON											
3B.....	14	4	C	Thatcher wheat....	33.2	$ 57.10	—	32	61	2 Nor.	G.I.
				Fortune oats.....	61.4	43.51	—	35	37	1 Feed	W.S.
				Montcalm barley..	33.4	35.36	—	30	46	1 Feed	W.S.
				Dakota flax.....	8.1	31.59	—	21	52	3 C.W.	S.H.
MICHAEL NAWROCKI, SYLVANIA											
3F.....	14	7	B	Thatcher wheat....	47.3	$ 81.36	92	36	62	2 Nor.	G.I.
				Fortune oats.....	109.7	78.98	92	43	39	3 C.W.	G.
				Montcalm barley..	93.5	106.47	85	34	52	2 C.W. 6R.	W.S.
				Dakota flax.....	21.4	86.11	105	26	53	2 C.W.	G.
GARNET A. WOOLSEY, CLEMENS											
3F.....	14	8	B	Thatcher wheat....	18.8	$ 32.90	—	—	63	1 Nor.	—
				Fortune oats.....	39.3	28.30	—	—	36	3 C.W.	G.
				Montcalm barley..	33.1	37.69	—	—	48	2 C.W. 6R.	—
				Dakota flax.....	12.3	50.00	—	—	54	1 C.W.	—
MARTIN T. MARCHILDON, ZENON PARK											
3F.....	14	10	C	Thatcher wheat....	28.9	$ 50.57	114	24	64	1 Nor.	—
				Fortune oats.....	57.0	42.18	113	27	39	2 C.W.	—
				Montcalm barley..	54.5	62.06	111	26	53	1 C.W. 6R.	—
				Dakota flax.....	14.7	59.75	115	19	53	1 C.W.	—

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bushels per Acre	Cash Value per Acre	Days Seeding to Ripening	Plant Height in Inches	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
ROY F. HENDRICKS, AYLSHAM											
3F.....	14	11	C	Thatcher wheat....	39.3	$ 68.77	84	31	64	1 Nor.	—
				Fortune oats.....	104.9	77.63	93	35	39	2 C.W.	—
				Montcalm barley..	74.4	84.72	78	34	50	2 C.W. 6R.	W.S.
				Dakota flax.....	21.4	86.99	119	23	55	1 C.W.	—
Tests discarded on account of damage by drought, pests, hail, or other causes.											
4A.....	14	4	D	Erwin F. Schweitzer, Algrove.							
4A.....	14	5	C	Bernard A. Renneberg, Kinloch.							

WHEAT POOL DISTRICT 15

WALTER H. FRIESEN, ROSTHERN											
3B.....	15	4	B	Thatcher wheat....	6.6	$ 11.35	—	—	62	2 Nor.	G.I.
				Fortune oats.....	—	—	—	—	—	—	—
				Montcalm barley..	—	—	—	—	—	—	—
				Dakota flax.....	3.2	13.01	—	—	52	1 C.W.	—
Fortune and Montcalm destroyed by grasshoppers.											
IRVIN W. JUNG, MONT NEBO											
3B.....	15	7	B	Thatcher wheat....	25.2	$ 44.10	—	—	61	1 Nor.	—
				Fortune oats.....	—	—	—	—	—	—	—
				Montcalm barley..	38.8	44.18	—	—	50	1 C.W. 6R.	—
				Dakota flax.....	16.2	65.85	—	—	55	1 C.W.	—
Fortune destroyed by livestock.											
HARVEY WENDEL, HOLBEIN											
3B.....	15	8	B	Thatcher wheat....	22.2	$ 38.18	102	20	61	2 Nor.	G.I.
				Fortune oats.....	28.3	20.38	84	25	35	3 C.W.	G.
				Montcalm barley..	28.4	30.07	85	25	46	1 Feed	W.S.
				Dakota flax.....	1.3	5.23	124	12	(A)	(E) 2 C.W.	G.
Germination unsatisfactory.											
ELMER PACZAY, PADDOCKWOOD											
3B.....	15	9	C	Thatcher wheat....	60.8	$106.40	107	32	64	1 Nor.	—
				Fortune oats.....	104.8	77.55	108	44	40	2 C.W.	—
				Montcalm barley..	93.0	105.90	92	38	50	2 C.W. 6R.	—
				Dakota flax.....	24.4	99.19	112	24	55	1 C.W.	—

WHEAT POOL DISTRICT 16

KEN W. ZALESCHUK, MAYMONT											
3G.....	16	1	C	Thatcher wheat....	29.2	$ 51.10	90	36	65	1 Nor.	—
				Fortune oats.....	50.5	36.36	84	42	35	3 C.W.	G.
				Montcalm barley..	38.0	43.27	84	42	49	2 C.W. 6R.	W.S.
				Dakota flax.....	19.4	78.86	104	24	54	1 C.W.	—
GEORGE KOTUN, IFFLEY											
3G.....	16	3	D	Thatcher wheat....	10.4	$ 18.20	—	—	62	1 Nor.	—
				Fortune oats.....	10.0	7.20	—	—	38	3 C.W.	G.
				Montcalm barley..	10.9	11.54	—	—	46	1 Feed	G.
				Dakota flax.....	.8	3.25	—	—	(A)	(E) 1 C.W.	—
Germination unsatisfactory.											
LIONEL BLANCHETTE, JACKFISH LAKE											
3E.....	16	4	A	Thatcher wheat....	12.3	$ 21.16	86	22	63	2 Nor.	G.I.
				Fortune oats.....	19.6	14.50	83	20	38	2 C.W.	G.
				Montcalm barley..	14.2	15.03	86	18	46	1 Feed	W.S.
				Dakota flax.....	4.4	17.89	92	12	54	1 C.W.	—
KEN W. WESSON, MAIDSTONE											
3G.....	16	5	D	Thatcher wheat....	22.3	$ 39.02	103	28	63	1 Nor.	—
				Fortune oats.....	31.2	22.46	98	27	36	3 C.W.	St.
				Montcalm barley....	31.3	35.64	95	25	50	2 C.W. 6R.	St.
				Dakota flax.....	9.1	36.99	107	22	54	1 C.W.	—

(A)—Insufficient to calculate bushel weight.
(E)—Estimated grade.

Cereal Variety Zone	Dist.	Sub. Dist.	Test Desig-nation	Varieties	Yield Bushels per Acre	Cash Value per Acre	Days Seeding to Ripening	Plant Height in Inches	Pounds per Measured Bushel	Commercial Grades	Grading Remarks
LESLIE W. SUTTON, MARSHALL											
3E.....	16	6	C	Thatcher wheat....	13.7	$ 23.97	87	19	62	1 Nor.	—
				Fortune oats.....	19.1	13.75	85	18	37	3 C.W.	G.
				Montcalm barley..	16.0	18.22	87	20	49	2 C.W. 6R.	W.S.
				Dakota flax.....	8.6	34.96	96	20	54	1 C.W.	—
BERNARD W. STARLING, CATER											
4B.....	16	9	B	Thatcher wheat....	22.5	$ 38.25	—	15	61	3 Nor.	F.
				Fortune oats.....	24.3	17.50	—	14	37	3 C.W.	G.
				Montcalm barley..	24.2	25.29	—	14	45	2 Feed	—
				Dakota flax.....	2.9	11.79	—	12	53	1 C.W.	—
Flax badly shattered.											
WALTER ILNESKY, RANGER											
4B.....	16	10	D	Thatcher wheat....	49.9	$ 85.83	93	32	64	2 Nor.	G.I.
				Fortune oats.....	84.5	60.84	93	34	38	3 C.W.	G.
				Montcalm barley..	69.2	78.80	88	29	48	2 C.W. 6R.	W.S.
				Dakota flax.....	19.0	77.23	95	20	52	1 C.W.	—
ROBERT CHALIFOUR, LEOVILLE											
4B.....	16	10	E	Thatcher wheat....	14.2	$ 23.71	126	18	58	4 Nor.	F.
				Fortune oats.....	—	—	—	17	—	—	—
				Montcalm barley..	13.5	13.63	125	19	39	3 Feed	F.
				Dakota flax.....	—	—	—	12	—	—	—
Dakota and Fortune destroyed by frost.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
4B.....	16	11	C	C. Bobbie W. McKay, Dorintosh.							

The Oat Variety Test conducted by Margaret Perkins, Codette.

CONCLUSIONS

Seeding of the Saskatchewan crop in 1948 was delayed due to a late spring, and the flood conditions which prevailed over large areas. Top-soil moisture evaporated rapidly, however, due to hot dry weather early in June and germination of late sown crops was poor in many districts.

Weekly crop bulletins published by Saskatchewan Pool Elevators reported a rapid deterioration in the condition of the wheat crop, commencing during the second week of June and continuing until about the middle of July.

Heavy infestations of grasshoppers, especially in the southwest, central and southern areas, caused severe damage to crops already suffering from inadequate moisture. Rains which fell during the latter part of July checked deterioration in many districts but at some points in the west and centre precipitation came too late to help the crops. Further rains which fell toward the end of the month assured generally good yields throughout the east and northeast but over much of the western area, where drought, grasshoppers, sawfly infestation and heavy weed growth had hampered the normal development of the crop, yields ranged from fair to very poor.

These conditions, while disappointing to many farmers, proved ideal for variety testing. The serious sawfly problem encountered during the year emphasized still further the need for top-quality resistant varieties. Rescue has provided an excellent start in this field and further progress undoubtedly will be made in future. The grasshopper invasion was very costly to farmers but provided some interesting information in variety tests. Stewart durum appeared to suffer more severe damage by hoppers than the other varieties. This was due, partly at least, to the later ripening characteristics of the variety but whether or not Stewart also has greater attraction for these pests is an interesting and important question. Saunders, a relatively new variety, failed to yield as well as Thatcher and should be tested further before commercial production is undertaken. On the basis of the 1948 tests, Apex 2177 appears somewhat superior to the original strain and Thatcher remains an excellent variety for general use.

Fortune and Exeter oats produced somewhat better yields than Larain and Valor but the very early maturity of the two latter varieties was clearly demonstrated in the 1948 tests.

Velvon barley, introduced from the United States, produced excellent yields and is considered one of the more promising new varieties. It has not as yet been licensed for use in Canada.

A most important feature of the Wheat Pool program is the widespread distribution of tests which provide information, not from one central location, but from more than three hundred farms in the Province. This distribution is made possible by the enthusiastic co-operation of young farm men and women who give a great deal of time and effort to the supervision of the tests.

In conclusion, it may be said that the 1948 Variety Testing program has been highly successful, not only because of the accurate information provided, but also because of its encouragement, through demonstration, of the trend toward the use of better varieties and the practice of more efficient farming.

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